

# SEARCH REQUEST FORM

Scientific and Technical Information Center

Access DB#

108 253

Rush  
SOF 3621

Requester's Full Name: Kambiz Abd. Examiner #: 79065 Date: 11-13-03  
Art Unit: 3621 Phone Number 305-3364 Serial Number: 09-728297  
Mail Box and Bldg/Room Location: PK-5 7-D1 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Scalable, Fraud Resistant Graphical Payment Indicia

Inventors (please provide full names): Jonathan Yen, Chit Wei Saw,  
Doron Shaked, Abraham Levi

Earliest Priority Filing Date: Dec 1, 2000

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

please search for the method of embedding code/watermark or digital token within a gray scaled image.

Method of extracting such a embedded code/watermark/digital token. the code is hidden in a particular segment of the gray scale image.

BEST AVAILABLE COPY

## STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>Bode Atkintols</u>	NA Sequence (#)	STN
Searcher Phone #: <u>308 6150</u>	AA Sequence (#)	Dialog <u>\$ 719.27</u>
Searcher Location: <u>SLC 3620</u>	Structure (#)	Questel/Orbit
Date Searcher Picked Up: <u>11/14/03</u>	Bibliographic	Dr.Link
Date Completed: <u>11/14/03</u>	Litigation	Lexis/Nexis
Searcher Prep & Review Time: <u>120</u>	Fulltext	Sequence Systems
Clerical Prep Time:	Patent Family	WWW/Internet <input checked="" type="checkbox"/>
Online Time: <u>120</u>	Other	Other (specify)



# ***STIC Search Report***

## ***EIC 3600***

**STIC Database Tracking Number: 108253**

**TO: Kambiz Abdi**  
**Location: PK5 7D11**  
**Art Unit : 3621**  
**Friday, November 14, 2003**

**Case Serial Number: 09/728297**

**From: Bode Akintola**  
**Location: EIC 3600**  
**PK5-Suite 804, 8A01**  
**Phone: 308-6150**

**Olabode.akintola@uspto.gov**

### **Search Notes**

Examiner Kambiz,

Please find attached your search results.

Please let me know if you like for me to try a refocused search with a different strategy or additional terms.

Please take a few minutes to fill the attached Colored feedback form to the EIC.

Thanks,

Bode Akintola



Set	Items	Description
S1	37	AU=(SHAKED D? OR SHAKED, D?)
S2	202556	RESOLUTION? OR BITMAP? OR CONTONE? OR PIXEL OR PIXMAP OR R- ASTER
S3	1630424	IMAGE? ? OR PICTURE? OR PICTORIAL OR PICTORAL OR PHOTO? ? - OR PHOTOGRAPH? OR INDICIA OR INDICIUM
S4	454888	CODE OR ENCOD? OR CODING OR WATERMARK?
S5	2744	GRAY()SCAL? OR GRAYSCAL?
S6	3367006	SEGMENT? OR SECTION? ? OR REGION? ? OR AREA? ? OR CELL? ?
S7	12062	HALFTONE? OR HALF()TONE?
S8	1	S1 AND S5
S9	1	S1 AND PAY?
S10	111	S5 AND S2 AND S7
S11	88	S10 AND IC=(G06F? OR H04N?)
S12	10	S11 AND S4
S13	1939	S3 AND S5
S14	176	S13 AND S4
S15	103	S14 AND IC=(G06F? OR H04N?)
S16	32	S15 AND S6
S17	37	S12 OR S16

? show files

File 344:Chinese Patents Abs Aug 1985-2003/Apr

(c) 2003 European Patent Office

File 347:JAPIO Oct 1976-2003/Jul(Updated 031105)

(c) 2003 JPO & JAPIO

File 350:Derwent WPIX 1963-2003/UD,UM &UP=200373

(c) 2003 Thomson Derwent

File 371:French Patents 1961-2002/BOPI 200209

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15/3,K/1 (Item 1 from file: 9)  
DIALOG(R)File 9:Business & Industry(R)  
(c) 2003 Resp. DB Svcs. All rts. reserv.

2386131 Supplier Number: 02386131

**Des couleurs qui defilent**

(FujiFilm is introducing its CS-1 continuous office scanner, which comes with MGI PhotoSuite image retouching software)

Monde Informatique, p 32

February 26, 1999

DOCUMENT TYPE: Journal ISSN: 0242-5769 (France)

LANGUAGE: French RECORD TYPE: Abstract

**ABSTRACT:**

...and distributor, is offering its CS-1 continuous office scanner, which features 30-bit colour **coding** and 10-bit **grayscale**. The product comes with a a parallel interface and Contact Image Sensor, providing 300 dpi of real **resolution**. The CS-1 scanner also comes with MGI PhotoSuite image retouching software and Xerox's...

15/3,K/2 (Item 2 from file: 9)  
DIALOG(R)File 9:Business & Industry(R)  
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1173533 Supplier Number: 01173533 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Apple Intros StyleWriter 1200 Printer**

(StyleWriter 1200 to replace StyleWriter II)

Newsbytes News Network, p N/A

April 18, 1995

DOCUMENT TYPE: Journal (United States)

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 352

(USE FORMAT 7 OR 9 FOR FULLTEXT)

**TEXT:**

...is still black-and-white printing."

StyleWriter 1200 new features include faster speed, better print **resolution**, a desktop printer icon, two and four-up printing, and a **watermark** option, according to the company. The new model prints at three pages-per-minute (ppm) in normal print mode and offers greater **resolution** than StyleWriter II with 720 by 360 dots-per-inch (dpi) **resolution** for smooth edges on black-and-white pages. **Resolution** for pages containing **grayscale** images is 360 by 360 dpi.

The desktop icon allows users to drag a file...

15/3,K/3 (Item 1 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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02569399 232537111

**Building on the Cornell-Yale model: Digitizing the radicalism collection at Michigan State University**

Seadle, Michael

Library Hi Tech v16n2 PP: 19-36 1998

ISSN: 0737-8831 JRNL CODE: LIHT

WORD COUNT: 10685

...TEXT: number of bits of information that the image file contains about any single dot or **pixel** . Onebit depth means a black and white image because only two possibilities exist in binary computer **code** for a single bit. Eight-bit depth allows **grayscale** with 2

sup 8

or 256 shades. Twenty-four-bit depth is enough for millions...

**15/3,K/4 (Item 2 from file: 15)**

DIALOG(R)File 15:ABI/Inform(R)

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01433554 00-84541

**Raster mixed with vector makes drawings more useful**

Smith, Alan

Machine Design v69n11 PP: 128 Jun 5, 1997

ISSN: 0024-9114 JRNL CODE: MDS

WORD COUNT: 785

...TEXT: a resource file in the same format. Exporting to tiff also provides image compression and **encoding** .

Users modify imported images with several tools. For example, **raster** -snap modes work like CAD-object snaps. The system displays a dialog box for snapping...

**15/3,K/5 (Item 3 from file: 15)**

DIALOG(R)File 15:ABI/Inform(R)

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01188657 98-38052

**Reviews: PaperPort Vx**

Beckman, Mel

Macworld v13n3 PP: 82 Mar 1996

ISSN: 0741-8647 JRNL CODE: MAW

WORD COUNT: 428

...TEXT: documents with a keyword search.

This version introduces a ream of new features: 8-bit **gray scale** , faster scanning, 400-dpi **resolution** , additional application links, Power Mac-native **code** , improved OCR speed and accuracy, Finder drag-and-drop support, and future upgradability to a...

**15/3,K/6 (Item 4 from file: 15)**

DIALOG(R)File 15:ABI/Inform(R)

(c) 2003 ProQuest Info&Learning. All rts. reserv.

01026760 96-76153

**Peripherals go modular**

Kempfer, Lisa

Computer-aided Engineering v14n5 PP: 20 May 1995

ISSN: 0733-3536 JRNL CODE: CAE

WORD COUNT: 689

...TEXT: image into the fibers of the paper--yielding offset-quality prints with uniform, intense solid **areas**, well-differentiated **gray scales**, and crisp fine lines. In addition, **photos** reproduce well, thanks to digital **halftone** processing. The system also uses mono-component toner. With this type of toner, the need...

15/3,K/7 (Item 5 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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00908566 95-57958

**Electronic imaging 101 part I - What is electronic imaging?**

Avedon, Don M

Records Management Quarterly v28n2 PP: 28-35 Apr 1994

ISSN: 1050-2343 JRNL CODE: RMQ

WORD COUNT: 4583

...TEXT: card, or otherwise); can be optical, magnetic, etc.

EIM--See electronic image management.

ELECTRONIC IMAGE **GRAY** SCALING--Activity outside or in scanning that accurately senses, differentiates and **encodes** intermediate shades between black and white in **photographs** and **half tones**.

ELECTRONIC IMAGE MANAGEMENT (EIM)--Techniques associated with recording, storing, retrieving and transmitting documents by electronic...

15/3,K/8 (Item 6 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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00903540 95-52932

**Vendors pack peripherals**

Damore, Kelley

Computer Reseller News n591 PP: 191 Aug 15, 1994

ISSN: 0893-8377 JRNL CODE: CRN

WORD COUNT: 345

...TEXT: printhead is expected to enable it to print documents at a 600 x 300-dpi **resolution**, with 256 **gray - scale** levels, and send and receive faxes at a **resolution** of 300 dpi. Moreover, the scanning mechanism will allow a user to scan back to...

15/3,K/9 (Item 7 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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00819093 94-68485

**Freedom of Press Classic**

Schorr, Joseph

Macworld v11n3 PP: 63 Mar 1994

ISSN: 0741-8647 JRNL CODE: MAW

WORD COUNT: 659

...TEXT: by the supplied drivers.)

Freedom of Press works its magic by reading and translating PostScript **code** --that task is normally handled by a PostScript printer's on-board processor. The program renders PostScript images at your printer's maximum **resolution** , so, for example, a StyleWriter II, which normally prints graphics at screen **resolution** --72 dots per inch--can instead print at an impressive 360 dpi, yielding beautifully defined line art and **gray - scale** images.

Printing with Freedom of Press is a two-step process. First, you create a ...

**15/3,K/10 (Item 8 from file: 15)**  
DIALOG(R)File 15:ABI/Inform(R)  
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00759806 94-09198  
**Image compression: Making multimedia publishing a reality**  
Anson, Louisa  
CD-ROM Professional v6n5 PP: 16-29 Sep 1993  
ISSN: 1049-0833 JRNL CODE: LDP  
WORD COUNT: 4426

...TEXT: frame-to-frame correlations (Figure 2). (Figure 2 omitted)

\* A frame of image data, probably **encoded** as luminance and chrominance (YUV) for color images and just luminance for **grayscale** images, is divided into 8 x 8 **pixel** blocks (Figure 3). (Figure 3 omitted)

\* Each block is then mathematically transformed from "**pixel** space" into frequency space" by the application of the Discrete Cosine Transform. This is a...

**15/3,K/11 (Item 9 from file: 15)**  
DIALOG(R)File 15:ABI/Inform(R)  
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00655323 93-04544  
**The New Driver in Fax**  
Raymond, John  
Black Enterprise v23n5 PP: 45-48 Dec 1992  
ISSN: 0006-4165 JRNL CODE: BEN  
WORD COUNT: 1100

...TEXT: stored in memory and can only be printed out when the receiver enters a special **code** .

\* **Gray Scale** : Such a feature represents the number of **halftones** that a machine can transmit. For sending the best reproduced **photos** or illustrations, a machine with 32 or 64 gray scales is advised.

What fax machines...

**15/3,K/12 (Item 10 from file: 15)**  
DIALOG(R)File 15:ABI/Inform(R)  
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00443988 89-15775

**Fax Tackles the Paperwork Tangle**

Jordahl, Gregory  
Inform v3n3 PP: 12-14 Mar 1989  
ISSN: 0892-3876 JRNL CODE: IFN

...ABSTRACT: Some new features incorporated by fax manufacturers to improve efficiency and image quality are: 1. **grayscale**, which enables a fax unit to **encode** an average of 16 gradations between black and white, 2. enhanced **resolution**, 3. variable document dimensions, 4. the error correction method, and 5. computer-like memory. To...

**15/3,K/13** (Item 11 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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00428225 89-00012

**Fax: A Good Bet for Interconnects**

Hardy, Lee  
Telephone Engineer & Management v92n22 PP: 72, 74 Nov 15, 1988  
ISSN: 0040-263X JRNL CODE: TEM

...ABSTRACT: courier charges. The state-of-the-art Group 3 machine scans and sends in digital **code**, allowing 16-level **gray scales** capable of generating reasonable copies of **photographs** and excellent ones of **halftones**. In selecting a model, a company should look for simplified operation for standard tasks and...

**15/3,K/14** (Item 1 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
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08177489 Supplier Number: 68541459 (USE FORMAT 7 FOR FULLTEXT)  
**Hi-Res Laser Printing Under \$300. (Samsung's ML-4600) (Evaluation)**  
Blackwood, Jonathan  
WinMag.com, pNA  
Dec 27, 2000  
Language: English Record Type: Fulltext  
Article Type: Evaluation  
Document Type: Magazine/Journal; Trade  
Word Count: 683

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...took exactly the same amount of time. You can print graphics as either vector or **raster** images, and there are four **grayscale** adjustments in the printer dialog-box controls in Windows. This printer doesn't take up...

**15/3,K/15** (Item 2 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
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08169601 Supplier Number: 68314142 (USE FORMAT 7 FOR FULLTEXT)  
**Hi-Res Laser Printing Under \$300. (Hi-Res Laser Printing Under \$300! - Samsung's ML-4600 is almost too good to be true.) (Hardware Review) (Evaluation)**  
Blackwood, Jonathan  
WinMag.com, pNA



Dec 20, 2000  
Language: English Record Type: Fulltext  
Article Type: Evaluation  
Document Type: Magazine/Journal; Trade  
Word Count: 683

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...took exactly the same amount of time. You can print graphics as either vector or **raster** images, and there are four **grayscale** adjustments in the printer dialog-box controls in Windows. This printer doesn't take up...

**15/3,K/16 (Item 3 from file: 16)**

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07155171 Supplier Number: 60959361 (USE FORMAT 7 FOR FULLTEXT)  
**Nikon Bundles Altamira Genuine Fractals With New Coolpix 990 Digital Camera; Scaling Software Enables High-Quality Enlargements of Digital Photographs.**

Business Wire, p0399  
March 30, 2000  
Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 577

... photographic quality images as scalable, reusable assets, which can be rendered to any size or **resolution** without sacrificing image quality.

The plug-in allows Lossless or Visually Lossless **encoding** and provides three scaling options for quality vs. speed. In addition to RGB color mode...

**15/3,K/17 (Item 4 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)  
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07060026 Supplier Number: 59411441 (USE FORMAT 7 FOR FULLTEXT)  
**AutoCAD 14's Raster Support. (Product Announcement)**

Bynres, David  
CADalyst, v15, n4, p68  
April, 1998  
Language: English Record Type: Fulltext  
Article Type: Product Announcement  
Document Type: Magazine/Journal; Trade  
Word Count: 1414

... that the nonparticipating partners have to write themselves. Participating vendors will get direct support of **grayscale** imaging, something some of them never had to begin with, so that puts them all on even ground."

Third-party **raster** software

Until Release 14, Autodesk relied on its third-party developers to provide raster tools...

**15/3,K/18 (Item 5 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)  
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06884306 Supplier Number: 58304392 (USE FORMAT 7 FOR FULLTEXT)

**RASTER-TO-VECTOR.**

Byrnes, David

CADalyst, v16, n12, p54

Dec, 1999

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 4900

... on AutoCAD 2000's image-handling functions by providing additional tools for editing and managing **raster** images, including editing color and **grayscale** images in place. Image Tracer (\$995) adds interactive **raster** -to-vector conversion based on Hitachi's patented line-following algorithms (Hitachi's line-following **code** is used in other programs, notably Autodesk's own CAD Overlay 2000). At the top...

**15/3,K/19 (Item 6 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)

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06601392 Supplier Number: 55615308 (USE FORMAT 7 FOR FULLTEXT)

**Altamira Group Announces Support for Canto(R) Cumulus 5 By Offering File Format Support.**

PR Newswire, p8879

August 31, 1999

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 1035

... delighted to be part of the release of Cumulus 5 and to integrate Altamira's **resolution** -independent files with Canto's asset management engine."

The full version of Altamira Genuine Fractals 2.0 PhotoPro **encodes** photographic quality images as scalable reusable assets, which can be rendered to any size or **resolution** without sacrificing image quality. The Photoshop plug-in allows Lossless or Visually Lossless **encoding** and provides three scaling options for quality versus speed. In addition to RGB color mode...

**15/3,K/20 (Item 7 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)

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06382898 Supplier Number: 54779039 (USE FORMAT 7 FOR FULLTEXT)

**Ericsson helps speed up mobile browsing -- Company's WebOnAir filtering client, gateway target roaming users connected to the Internet.(Brief Article)**

Sanchez, Jana

InfoWorld, v21, n22, p48B

May 31, 1999

Language: English Record Type: Fulltext

Article Type: Brief Article

Document Type: Magazine/Journal; Trade

Word Count: 620

... images less useful, explained Andersson. Users could choose, for instance, to see color images in **gray scale** instead.

Certain pages, containing many high- **resolution** graphics, could be downloaded five times as fast, said Anderson, while other Web pages that...

**15/3,K/21 (Item 8 from file: 16)**  
DIALOG(R)File 16:Gale Group PROMT(R)  
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06369953 Supplier Number: 54734264 (USE FORMAT 7 FOR FULLTEXT)  
**Altamira Group's Genuine Fractals 2.0 Bundled With New EPSON Stylus(R)**  
**Photo 1200 Printer.**  
PR Newswire, p8659  
May 27, 1999  
Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 794

... Adobe(R) Photoshop(R), is the only software on the market that is able to **encode** photographic quality images as scalable reusable assets, which can be rendered to any size or **resolution** without sacrificing image quality. The plug-in allows Lossless or Visually Lossless **encoding** and provides three scaling options for quality versus speed. In addition to RGB color mode...

**15/3,K/22 (Item 9 from file: 16)**  
DIALOG(R)File 16:Gale Group PROMT(R)  
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06069516 Supplier Number: 53540656 (USE FORMAT 7 FOR FULLTEXT)  
**Altamira Group Takes Top Honors: Genuine Fractals Printpro(TM) Wins**  
**MACWORLD 'Eddy Award' As Best Publishing Utility of 1998.**  
PR Newswire, p1028  
Jan 8, 1999  
Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 461

... CEO Dennis Aubrey. "More importantly, it signals the importance and acceptance of image compression and **resolution** on demand as vital, effective and efficient tools for imaging professionals."

Designed to work with Adobe Photoshop(R), Genuine Fractals PrintPro **encodes raster** images in "lossless" and "visually lossless" modes and features revolutionary scaling capabilities. Lossless **encoding** preserves the image perfectly for future use and produces the highest quality enlargements while visually...

**15/3,K/23 (Item 10 from file: 16)**  
DIALOG(R)File 16:Gale Group PROMT(R)  
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05170409 Supplier Number: 47890984 (USE FORMAT 7 FOR FULLTEXT)  
**Built for existing users not the first-timer**  
Computing Canada, p028  
August 5, 1997  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 764

... Visual Basic 4.0.

A major improvement in Release 14 is the ability to insert **raster**-supported images on a vector-based CAD drawing. This gives you the option of adding scanned documents or microfilm drawings, aerial or satellite photos, **watermarks**, logos or computer-generated images to vector-based CAD drawings. They can be imported in...

**15/3,K/24 (Item 11 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)

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04285290 Supplier Number: 46279728 (USE FORMAT 7 FOR FULLTEXT)

**Software for MACH PCI Frame Grabbers Provides an Array of Imaging Solutions**

News Release, pN/A

April 3, 1996

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 1167

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...monochrome inputs, including RS-170/NTSC or CCIR/PAL, and effectively provides 8-bits of **grayscale resolution**. The DT3152 has a Fidelity front-end that provides superior accuracy, input flexibility and variable ...

**15/3,K/25 (Item 12 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)

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04252177 Supplier Number: 46227068 (USE FORMAT 7 FOR FULLTEXT)

**BANCTEC ANNOUNCES RELEASE OF UNIQUE FEATURES TO UNIVERSAL TRANSPORT PRODUCT LINE**

PR Newswire, p315NYF052

March 15, 1996

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 404

... of North American Operations at BancTec, states, "Not only has the UT offered the only **gray scale** imaging capabilities available to the community bank market, but it now also provides users with sophisticated windowing options at variable **resolutions** to best meet the customer's application processing and image storage requirements."

The **gray scale** and power **encode** features are a continuation of BancTec's roll-out of the UT productline. To date...

**15/3,K/26 (Item 13 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)

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04232554 Supplier Number: 46196038 (USE FORMAT 7 FOR FULLTEXT)

**ANA Tech's new APOGEE processor powers the Eagle SLI 3840/Plus scanner.**

Business Wire, p03040082

March 4, 1996

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 626

... levels of grayscale, a spectrum of choices designed to address the needs of a major **segment** of the large format black and white and/or **halftone image** scanning market. The new model incorporates internal construction and operating features found exclusively in ANA...

**15/3,K/27 (Item 14 from file: 16)**  
DIALOG(R)File 16:Gale Group PROMT(R)  
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03868295 Supplier Number: 45554216 (USE FORMAT 7 FOR FULLTEXT)

**Ares Announces MiniFont**

News Release, pN/A

May 22, 1995

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 1124

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...document; and the MiniFont rasterizer, which will display the MiniFont in black and white or **gray scale**, using anti-aliasing for superb on-screen rendering. MiniFont technology is the most compact scalable and **resolution** independent font system available today. "MiniFont is the next logical component in our typographic software...

...the look of the portable document and alleviates the need for the author to tune **bitmapped** fonts manually for screen legibility. Cross-Platform Support The MiniFont technology is designed to be platform and font format independent. MiniFont eliminates problems with character **encoding** as a font moves between environments. The character set contained in a MiniFont can be...

**15/3,K/28 (Item 15 from file: 16)**  
DIALOG(R)File 16:Gale Group PROMT(R)  
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03845104 Supplier Number: 45505444 (USE FORMAT 7 FOR FULLTEXT)

**Peripherals Go Modular**

Computer-Aided Engineering, p20

May, 1995

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Academic Trade

Word Count: 697

... image into the fibers of the paper - yielding offset-quality prints with uniform, intense solid **areas**, well-differentiated **gray scales**, and crisp fine lines. In addition, **photos** reproduce well, thanks to digital **half - tone** processing. The system also uses monocomponent toner. With this type of toner, the need for...

**15/3,K/29 (Item 16 from file: 16)**  
DIALOG(R)File 16:Gale Group PROMT(R)  
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03833397 Supplier Number: 45481118 (USE FORMAT 7 FOR FULLTEXT)

**Apple Intros StyleWriter 1200 Printer 04/18/95**

Newsbytes, pN/A

April 18, 1995

Language: English Record Type: Fulltext

Document Type: Newswire; General Trade

Word Count: 358

... is still black-and-white printing."

StyleWriter 1200 new features include faster speed, better print **resolution**, a desktop printer icon, two and four-up printing, and a **watermark** option, according to the company. The new model prints at three pages-per-minute (ppm) in normal print mode and offers greater **resolution** than StyleWriter II with 720 by 360 dots-per-inch (dpi) **resolution** for smooth edges on black-and-white pages. **Resolution** for pages containing **grayscale** images is 360 by 360 dpi.

The desktop icon allows users to drag a file...

**15/3,K/30 (Item 17 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)

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03652095 Supplier Number: 45155315 (USE FORMAT 7 FOR FULLTEXT)

**LEAD TECHNOLOGIES OFFERS DEVELOPERS KIT TO ADD IMAGE COMPRESSION AND MANIPULATION IN APPLICATIONS**

Computergram International, n2549, pN/A

Nov 22, 1994

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 293

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...data pixel by pixel; flip, invert and rotate to any degree; reverse, sharpen, soften, colour **resolution** and dither using seven methods; copy, brighten, darken, change contrast, change hue, change saturation, change palette, **grayscale**, **halftone**, posterise, mosaic, emboss, histogram equalise, average filter, median filter, edge and line detect using four...

**15/3,K/31 (Item 18 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)

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02370875 Supplier Number: 43112989 (USE FORMAT 7 FOR FULLTEXT)

**VISION MODULES INC. ANNOUNCES 3031 LINE-SCAN CAMERA INTERFACE BOARD**

News Release, p1

July, 1992

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 399

... the PC/AT.

The 3031 supplies all timing signals to the camera, and provides both **gray - scale** and run-length **encoded** binary data. It corrects each incoming **pixel** for offset and gain; this gives digitized image data free from the effects camera array...

**15/3,K/32 (Item 19 from file: 16)**  
DIALOG(R)File 16:Gale Group PROMT(R)  
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01949758 Supplier Number: 42491849 (USE FORMAT 7 FOR FULLTEXT)  
**TEKTRONIX EXTENDS TDS PLATFORM TO LOW COST PORTABLE SCOPES**  
News Release, pl  
Nov 1, 1991  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 943

... to give the instruments a "live" look and feel.  
Programmable 16- levels of intensity per **pixel** on the 640 x 480 line  
VGA display allows unmatched display clarity and **gray - scale**  
**coding** ,  
and provides another visual-enhancement element to the display.  
Waveform areas of greater and lesser...

**15/3,K/33 (Item 20 from file: 16)**  
DIALOG(R)File 16:Gale Group PROMT(R)  
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01929912 Supplier Number: 42461571 (USE FORMAT 7 FOR FULLTEXT)  
**Bar Code Recognition added to Image Co-processor**  
News Release, pl  
Oct 23, 1991  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 734

... searching a selected batch of  
documents. This automatically adjusts for, and accounts for,  
variations in **resolution**  
and bar code size. To recognize the location  
of the bar **code** , a pseudo **gray scale**  
pattern is created on which to  
search. Parameters are then automatically set to identify the...

**15/3,K/34 (Item 21 from file: 16)**  
DIALOG(R)File 16:Gale Group PROMT(R)  
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01239404 Supplier Number: 41435668  
**HITACHI INTRODUCES FACSIMILE WITH MOST FEATURES FOR THE PRICE**  
News Release, pl  
July 11, 1990  
Language: English Record Type: Abstract  
Document Type: Magazine/Journal; Trade

ABSTRACT:  
...rates are less expensive Other features of the HIFAX 11 include  
15-second transmission, supertine **resolution** , **gray scale** , built-in  
handset, voice greeting in fax reception and confidential transmission  
send. ...

**15/3,K/35 (Item 22 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)  
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01145078 Supplier Number: 41298278

**AGFA COMPUGRAPHIC ANNOUNCES FIRST POSTSCRIPT IMAGE RECORDER THAT COMBINES  
ALL FEATURES REQUIRED BY MOST DEMANDING COLOR APPLICATIONS**

News Release, p1

April 27, 1990

Language: English Record Type: Abstract

Document Type: Magazine/Journal; Trade

**ABSTRACT:**

...end color applications. The SelectSet 5000 features a constant optical path length, ensuring that all **halftone** dot shapes and densities remain uniform across the entire **image area** for better quality and predictability of output. Users can select 1200 or 2400 dpi output...

**15/3,K/36 (Item 1 from file: 148)**

DIALOG(R)File 148:Gale Group Trade & Industry DB

(c)2003 The Gale Group. All rts. reserv.

12079206 SUPPLIER NUMBER: 61970758 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Minolta.**

Strother-Vien, Leigh

Advanced Imaging, 15, 4, 22

April, 2000

ISSN: 1042-0711 LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 124 LINE COUNT: 00013

**TEXT:**

...line skewing and removes shadows. True Gray Scale technology (256 shades of gray) maintains original **image** quality and minimizes moire effects when reproducing screened **halftone images**. Automatic edge detection masks out borders and the **area** beyond the page. Face-up scanning allows two pages to be scanned at once, so...

**15/3,K/37 (Item 2 from file: 148)**

DIALOG(R)File 148:Gale Group Trade & Industry DB

(c)2003 The Gale Group. All rts. reserv.

09643997 SUPPLIER NUMBER: 16719014 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Desktop-scanner market intensifies.**

Terdoslavich, William

Computer Reseller News, n617, p66(1)

Feb 13, 1995

ISSN: 0893-8377 LANGUAGE: English RECORD TYPE: Fulltext; Abstract

WORD COUNT: 399 LINE COUNT: 00036

...ABSTRACT: and copying functions. Microtek Lab Inc's ScanMaker II series offers such desktop features as **gray scale** only to single-pass high **resolution** color. ScanMaker II is bundled with Caere OmniPage Direct for image editing and optical character...

**15/3,K/38 (Item 3 from file: 148)**

DIALOG(R)File 148:Gale Group Trade & Industry DB

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09350983      SUPPLIER NUMBER: 19175744      (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Protecting photographic authorship. (electronic media) (Pixel**  
**Corner) (Column)**

Rohde, Russell A.

PSA Journal, v63, n2, p12(1)

Feb, 1997

DOCUMENT TYPE: Column      ISSN: 0030-8277      LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 625      LINE COUNT: 00055

... innocuously, and may be used for digital images or digital audio clips. Digimarc technology embeds **encoded** data by subtle and perceptually adaptive changes in **pixel** luminance. Though file size or **pixel** count is not altered, **pixel** quality is changed and "imperceptible" **watermark** is a relative term. Four levels of embed are provided. Levels 1 and 2 are...

...for PictureMarc and correspond to 3.5 x 3.5 inch images if displayed in **gray scale** at screen **resolution** of 72 pixels per inch.

Digimarc may be reached at TEL (800) 344-4627, FAX...

**15/3,K/39      (Item 4 from file: 148)**

DIALOG(R)File 148:Gale Group Trade & Industry DB

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08945142      SUPPLIER NUMBER: 18664114      (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**PostScript goes to new level. (Adobe Systems' PostScript Level 3 standard)**

**(Company Business and Marketing)**

Morgenstern, David

MacWEEK, v10, n34, p16(2)

Sep 9, 1996

ISSN: 0892-8118      LANGUAGE: English      RECORD TYPE: Fulltext; Abstract

WORD COUNT: 850      LINE COUNT: 00073

... sources said.

In addition, the new version will incorporate a pair of technologies to boost **resolution** of black-and-white printers. The first reportedly will provide eight-bit **gray - scale** support for all printers. The second, higher-end **code** will support more than 4,000 levels of gray for several image formats.

Aimed at...

**15/3,K/40      (Item 5 from file: 148)**

DIALOG(R)File 148:Gale Group Trade & Industry DB

(c)2003 The Gale Group. All rts. reserv.

08901554      SUPPLIER NUMBER: 18473579

**On-demand printing & document management: revolutionary new synergy?**

Spencer, Harvey

Advanced Imaging, v11, n6, p50(4)

June, 1996

ISSN: 1042-0711      LANGUAGE: English      RECORD TYPE: Fulltext

WORD COUNT: 2254      LINE COUNT: 00176

... with poor geometric accuracy will show non-linearity on diagonal lines (wavering) and large screened **halftone areas**. Geometric accuracy is best measured in the **grayscale** domain of the scanner using specially printed ronchi ruling patterns.

\* Repeatability and registration. A print...

15/3,K/41 (Item 6 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

07983229 SUPPLIER NUMBER: 17237966 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Novell Licenses Bitstream's TrueDoc Technology; Font Portability Empowers Envoy Electronic Publishing.**

Business Wire, p7121028

July 12, 1995

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 864 LINE COUNT: 00090

... of TrueDoc into Envoy. Version 2.0 offers significant enhancements over previous versions, including a **Gray Scale** /Anti Aliasing extension, support for **bitmap** fonts, the ability to access multiple Portable Font Resources (.PFRs), and enhanced TrueType hinting technology...

15/3,K/42 (Item 7 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

07979367 SUPPLIER NUMBER: 17220408 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**NOVELL ANNOUNCES HEWLETT-PACKARD SCANNING FUNCTIONALITY FOR APPWARE**

PR Newswire, p711LA023

July 11, 1995

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 770 LINE COUNT: 00080

... can access SCL with a fully visual tool and utilize scanning features such as color, **resolution**, scaling, brightness and contrast in their application without having to understand the complexities of SCL. The ScanJet ALM delivers black and white, dithered, 256 level **grayscale** and 24-bit color data.

"Developers using this ALM and AppWare can deliver solutions that...

15/3,K/43 (Item 8 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB  
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07834526 SUPPLIER NUMBER: 16866436 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Have a yen for your own records label? (Rimage Corp' CD-recordable printer) (Brief Article)**

Government Computer News, v14, n7, p33(1)

April 3, 1995

DOCUMENT TYPE: Brief Article ISSN: 0738-4300 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT

WORD COUNT: 72 LINE COUNT: 00014

... its desktop CD-R printer, which prints type and graphics at 300-dot-per-inch **resolution** onto CD-R media.

The printer's Microsoft Windows image-editing software manages bar **code**, **grayscale** and radius printing. It includes TrueType fonts, predefined templates, design tools and filters for importing...

15/3,K/44 (Item 9 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB  
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07647698 SUPPLIER NUMBER: 15972631 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**ANA Tech Eagle scanners now available on Silicon Graphics workstations.**  
Business Wire, p01031024  
Jan 3, 1995  
LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 390 LINE COUNT: 00033

... The companys 24 bit RGB color units, the 3640C and 4080C, offer the same true **resolutions** for the color market.

All models provide variable **resolution** and on-board run length **encoding**. The black and white units feature a variety of thresholding options to control real time conversion of **grayscale** data captured by the scanning engine into line art output data. The Eagle color scanners...

**15/3,K/45 (Item 10 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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07574477 SUPPLIER NUMBER: 16358168 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Sharp introduces 'multimedia viewcam.'**  
Television Digest, v34, n40, p10(2)  
Oct 3, 1994  
ISSN: 0497-1515 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 622 LINE COUNT: 00050

... to 1, depending on speed selected, uses ADCT (adaptive discrete cosine transformation) variable length symbol **encoding**, has screen **resolution** of 384x240 pixels, **gray scale** of 8 bits for brightness and color difference signal, transmits images at 9,600, 7...

**15/3,K/46 (Item 11 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

07297435 SUPPLIER NUMBER: 16074312 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Versatile inspection system doubles drug output. (West-Ward Pharmaceutical Corp.)**  
Packaging Digest, v31, n5, p40(4)  
May, 1994  
ISSN: 0030-9117 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 1645 LINE COUNT: 00134

... processor for the vision elements serves as a backup and also assures that the bar **code** scanner is reading accurately. The cameras offer 192x165- **pixel resolution** with 256-level **gray scale** processing, allowing for the demanding range

**15/3,K/47 (Item 12 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

07268696 SUPPLIER NUMBER: 15475199 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**What is electronic imaging? (includes glossary) (Electronic Imaging 101, part 1)**

Avedon, Don M.  
Records Management Quarterly, v28, n2, p28(8)  
April, 1994  
ISSN: 1050-2343      LANGUAGE: ENGLISH      RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 4982      LINE COUNT: 00409

... card, or otherwise); can be optical, magnetic, etc.  
EIM--See electronic image management.  
electronic image **gray** scaling--Activity outside or in scanning that accurately senses, differentiates and **encodes** intermediate shades between black and white in **photographs** and **half tones** .  
electronic image management (EIM)--Techniques associated with recording, storing, retrieving and transmitting documents by electronic...

**15/3,K/48      (Item 13 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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07203623      SUPPLIER NUMBER: 15037599      (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Scanning devices: converting graphical images into digital form is becoming a do-it-yourself desktop job. (includes related articles on using a digital camera, scanning tips, how scanners work, and how graphics tablets work) (Buyers Guide)**  
Miles, J.B.  
Government Computer News, v13, n4, p55(4)  
Feb 21, 1994  
DOCUMENT TYPE: Buyers Guide      ISSN: 0738-4300      LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 2112      LINE COUNT: 00167

...ABSTRACT: desktop publishing document. The scanning products listed and described are text/image scanners (not bar- **code** scanners), and all are priced around \$2,500; most have scanning **resolutions** ranging from 300 dots per inch (dpi) to 800 dpi, although some support **resolutions** of 1,200 dpi. Aspects to consider when selecting between a handheld, sheetfed, or flatbed scanner include optical character recognition, **resolution** , **grayscale** , brightness and contrast, scaling, zoom, software, and speed.

**15/3,K/49      (Item 14 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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06722058      SUPPLIER NUMBER: 14453094      (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Microsoft Word for DOS. (Software Review) (one of eight evaluations of word processing software in 'Documents Take the Center Stage') (Cover Story) (Evaluation)**  
Mendelson, Edward  
PC Magazine, v12, n19, p134(2)  
Nov 9, 1993  
DOCUMENT TYPE: Evaluation      ISSN: 0888-8507      LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 963      LINE COUNT: 00075

... the result into another cell by hand.  
Among graphics formats, line art prints well, but **gray - scale** and color **bitmaps** often produce unacceptable results. Although you can move the **code** that represents an imported graphic with the mouse, you have to use a menu or...

**15/3,K/50 (Item 15 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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06507329 SUPPLIER NUMBER: 14151356 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**ISSCC: analog technology. (1993 International Solid State Circuits Conference) (Technical)**  
Goodenough, Frank  
Electronic Design, v41, n5, p59(7)  
March 4, 1993  
DOCUMENT TYPE: Technical ISSN: 0013-4872 LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 3696 LINE COUNT: 00285

... unique device is a "vector" ADC. It's designed for parallel analog signal processing, and **encodes 512-by-512-pixel gray scale** images at a rate of 30 Hz with 13X compression (see "Advanced Technology," p. 73 ...

**15/3,K/51 (Item 16 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

06434601 SUPPLIER NUMBER: 13733859 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**HP LaserJet 4Si: high resolution network printing. (Hardware Review) (First Looks) (Evaluation)**  
Poor, Alfred  
PC Magazine, v12, n9, p40(1)  
May 11, 1993  
DOCUMENT TYPE: Evaluation ISSN: 0888-8507 LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 805 LINE COUNT: 00060

... want to create camera-ready copy for reproduction. The RET can create some problems with **halftone images**, however; there was a noticeable "posterization" in some **gray - scale areas** of a test **image**.

The LaserJet 4Si and 4Si MX have raised the stakes in the shared printer game...

**15/3,K/52 (Item 17 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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06364797 SUPPLIER NUMBER: 13044377 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Plustek USA rolls out sheet-fed 24-bit color scanner. (Plustek USA ScanPlus Color 6000) (New & Improved) (Brief Article) (Product Announcement)**  
Torgan, Emerson Andrew  
PC Magazine, v12, n1, p66(1)  
Jan 12, 1993  
DOCUMENT TYPE: Product Announcement ISSN: 0888-8507 LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT  
WORD COUNT: 155 LINE COUNT: 00012

The ScanPlus Color 6000 has three scanning modes: Black and White/**Halftone**, Gray (up to 256 **gray scales**), and 24-bit color. The scanning

**area** accommodates **images** ranging in size from 2 by 3.5 inches to 8.5 by 14 inches...

**15/3,K/53 (Item 18 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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06165637 SUPPLIER NUMBER: 12809211 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Low-cost single-chip IC enhances gray scales. (Destiny Technology Corp.'s D9010 integrated circuit) (Product Announcement)**  
Nass, Richard  
Electronic Design, v40, n14, p85(2)  
July 9, 1992  
DOCUMENT TYPE: Product Announcement ISSN: 0013-4872 LANGUAGE:  
ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 753 LINE COUNT: 00057

... the pulse and intensity of the beam (Fig. 2). The variable sizes, combined with modified **half - tone cell** configurations, can increase the number of **gray scales**, the resolution, or both simultaneously. The net effect of modulating the beam is to produce...

**15/3,K/54 (Item 19 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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06165409 SUPPLIER NUMBER: 12778067 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**ASIC for printer controllers enhances half-tone print quality. (D9010 application-specific integrated circuit from Destiny Technology Corp.) (Product Announcement)**  
EDN, v37, n15, p55(1)  
July 20, 1992  
DOCUMENT TYPE: Product Announcement ISSN: 0012-7515 LANGUAGE:  
ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 349 LINE COUNT: 00026

... pixels. The EET-X technology in the D9010 uses the variable-size dots and optimized **half - tone cell** configurations and produces **gray - scale images** with the perceived quality of a 2400-dpi engine.  
The ASIC implements the algorithms in...

**15/3,K/55 (Item 20 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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05931993 SUPPLIER NUMBER: 12332748  
**Squeezing out more gray levels. (gray-scale display technology) (State of the Art)**  
Tyler, Christopher W.  
Byte, v17, n7, p174(2)  
July, 1992  
ISSN: 0360-5280 LANGUAGE: ENGLISH RECORD TYPE: ABSTRACT

...ABSTRACT: Stealing' bits from color variation to increase the precision of the luminance variation in each **pixel** can provide thousands of gray levels while only producing one bit of color jitter. It is ideal for presenting **gray - scale images encoded** to high precision on an

inexpensive eight- or 24-bit color display. A table of...

**15/3,K/56 (Item 21 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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05827539 SUPPLIER NUMBER: 12011680 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Image compression for PC graphics: something lossed, something gained. (new imaging technology)**  
Grunin, Lori  
PC Magazine, v11, n8, p337(9)  
April 28, 1992  
ISSN: 0888-8507 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 6577 LINE COUNT: 00517

... reduce file size. Lossless methods are also useful for compressing black-and-white and most **gray - scale** images, since they too contain high levels of redundancy.

**Bitmapped** color images, however, vary greatly in their levels of redundancy. The more colors the technology...

**15/3,K/57 (Item 22 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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05589762 SUPPLIER NUMBER: 11639362 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Monolithic circuits expedite desktop video: video-compression chips. (includes a related article on video-compression techniques and standards)**  
Pryce, Dave  
EDN, v36, n22, p67(8)  
Oct 24, 1991  
ISSN: 0012-7515 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 3456 LINE COUNT: 00289

... between RGB and YUV color spaces, the converter chip provides the control logic to convert **pixel** data between a **raster** -ordered signal and a JPEG block-ordered signal. The chip set supports both color and **gray - scale** images.

The L64745 JPEG coder chip includes a lossless mode as an extension to baseline...

**15/3,K/58 (Item 23 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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05437585 SUPPLIER NUMBER: 11218727 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Qume Corp.: CrystalPrint Publisher II. (Hardware Review) (one of four evaluations of PostScript-compatible printers in 'PostScript clones hold their own.') (evaluation)**  
Stetson, Christopher  
PC Week, v8, n36, p96(1)  
Sept 9, 1991  
DOCUMENT TYPE: evaluation ISSN: 0740-1604 LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 964 LINE COUNT: 00080

... also provided a solid benchmark for object rendering.  
The fifth document was a pair of **gray - scale** gradient blends.  
These were created using **encoded** transfer functions and **halftone**  
algorithms to replace the printer's default.  
The document showed the printers' bit-mapped rendering...

**15/3,K/59 (Item 24 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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05189441 SUPPLIER NUMBER: 10851504 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Color image compression finally heads for maturity.**  
Leonard, Milt  
Electronic Design, v39, n10, p55(5)  
May 23, 1991  
ISSN: 0013-4872 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 2785 LINE COUNT: 00229

... the Joint Photographic Experts Group (JPEG) standard proposes a  
compression/decompression algorithm aimed primarily at **grayscale** and  
color still image. The standard doesn't specify image parameters, such as  
color space, spatial **resolution**, and color representation. Instead, the  
standard proposes a lossy **encoding** technique based on a discrete cosine  
transform (DCT) and a uniform quantizer followed by two...

...the encoder uses tables or precalculated custom tables. During the first  
pass of two-pass **encoding**, the **encoder** determines the best Huffman  
**coding** for the image being compressed. The baseline system can process the  
**pixel** blocks on either a block-interleaved or color-component basis, with  
no limitations on the...fractal computation. According to company  
representative Louisa Anson, "the board compresses a 320-by-200- **pixel**,  
8-bit **gray - scale** image in about 3 seconds, while executing about 2  
billion instructions and using a 20:1 compression ratio. A typical  
640-by-400- **pixel**, 24-bit video image is compressed to between 5000 and  
15,000 bytes, which amounts...

**15/3,K/60 (Item 25 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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05189440 SUPPLIER NUMBER: 10851502 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**IC executes still-picture compression algorithms. (integrated circuit,**  
**SGS-Thomson's ST1140 Joint Photographic Experts Group codec) (includes**  
**related article on compression ratios) (cover story) (product**  
**announcement)**  
Leonard, Milt  
Electronic Design, v39, n10, p49(4)  
May 23, 1991  
DOCUMENT TYPE: product announcement ISSN: 0013-4872 LANGUAGE:  
ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 1729 LINE COUNT: 00141

... performs JPEG compression in real time.  
The JPEG encoding/decoding algorithm applies to continuous-tone **gray**  
**- scale** or color image data, which is typically represented as a 2D array  
of pixels. In computer-graphic or image-processing terms, each **pixel** is  
represented as an 8-bit ( **gray - scale** ) number or a 3-by-8-bit (color)  
number. An XGA screen--the new IBM standard for high- **resolution** PC



graphics--will consist of 1024 by 768 pixels. A single color image of this  
...

**15/3,K/61 (Item 26 from file: 148)**

DIALOG(R)File 148:Gale Group Trade & Industry DB  
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05184417 SUPPLIER NUMBER: 10837236 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Neotech, Storm incorporate new photo standard. (Neotech Ltd. and Storm  
Technology Inc. use image compression standard)**  
Frenkel, Garry  
PC Week, v8, n23, p94(1)  
June 10, 1991  
ISSN: 0740-1604 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 258 LINE COUNT: 00020

... the higher frequency information to which the eye is less sensitive  
is discarded.

The remaining **gray - scale** and color information is **encoded** by  
tracking only the differences from one 8- **pixel** -by-8- **pixel** block to the  
next and writing the information about these blocks as lines of numbers...

**15/3,K/62 (Item 27 from file: 148)**

DIALOG(R)File 148:Gale Group Trade & Industry DB  
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04810949 SUPPLIER NUMBER: 08841324 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Packing pixels using image compression.**  
Wilson, Andrew  
Computer Graphics World, v13, n9, p74(2)  
Sept, 1990  
ISSN: 0271-4159 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 1254 LINE COUNT: 00097

... one-dimensional run-length coding (RLC) schemes, which also take  
advantage of the regularity of **pixel gray - scale** values. In operation,  
one-dimensional RLC starts from the top left line of pixels that...

...however, variable-length bit-codes are assigned, depending on the  
frequency of occurrence of any **gray - scale pixel** value. In this  
method, commonly occurring **gray - scale** values are represented by short  
strings, while less commonly occurring **gray - scale** values are  
represented by longer ones.

Like RLC and Huffman coding, differential pulse code modulation...

**15/3,K/63 (Item 28 from file: 148)**

DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

04794384 SUPPLIER NUMBER: 08625362 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Spyglass series finds patterns in scientific data. (Software Review)**  
**(Spyglass Inc. Spyglass scientific software) (includes related article on  
upcoming products) (evaluation)**  
Custer, Linda  
MacWEEK, v4, n25, p72(3)  
July 10, 1990  
DOCUMENT TYPE: evaluation ISSN: 0892-8118 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 1474 LINE COUNT: 00117

...ABSTRACT: FORTRAN library code. The user can view and edit individual values before generating a color **raster** image. It defaults to a **gray - scale** color table but supports 8-bit color. View can import PICT and Spyglass Transform files...

**15/3,K/64 (Item 29 from file: 148)**

DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

04764409 SUPPLIER NUMBER: 08624502 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**True-color graphics cards for the masses. (Hardware Review) (comparison of three 24-bit video boards for the Macintosh) (includes related summary article) (evaluation)**

Westland, Mary Jane

MacWEEK, v4, n25, p62(4)

July 10, 1990

DOCUMENT TYPE: evaluation ISSN: 0892-8118 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2560 LINE COUNT: 00194

... of RAM is recommended.

The Display Card 8\*24 supports the 13-inch AppleColor High-Resolution RGB Monitor, with display modes up to 32 bits (16,777,216 colors); all Apple monochrome monitors, with display modes up to eight-bit **gray scale** (256 grays); and NTSC (National Television System Committee) video devices. Special cables and an encoder...

...s 16-inch Trinitron monitor (at up to eight-bit color at 832-by-624-pixel **resolution** ) or PAL (a European video standard) or NTSC video devices. You may need special cables and an **encoder** box to properly convert Color Card/24's video signal for PAL or NTSC devices...

**15/3,K/65 (Item 30 from file: 148)**

DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

04591897 SUPPLIER NUMBER: 08446038 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Image-compression IC handles video rate using industry-standard algorithms. (C-Cube Microsystems Inc. CL550 image compression integrated circuit) (product announcement)**

Quinnell, Richard A.

EDN, v35, n9, p129(1)

April 26, 1990

DOCUMENT TYPE: product announcement ISSN: 0012-7515 LANGUAGE:

ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 539 LINE COUNT: 00041

... on a frame-by-frame basis.

Using a combination of discrete cosine-transform and Huffman- **coding** methods, the device operates on pixels in 8 X 8- **pixel** blocks. On-chip registers store the compression coefficients, which are user accessible. The device can handle **grayscale** images or color images in the RGB (red, green, blue), CMYK (cyan, magenta, yellow, black...

15/3,K/66 (Item 31 from file: 148)  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

04587957 SUPPLIER NUMBER: 08234354 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Image compression reduced to single chip; first single-chip JPEG  
compression/decompression device. (C-Cube Microsystems' CL550) (Joint  
Photographic Experts Group standard) (product announcement)**  
Microprocessor Report, v4, n4, p1(3)  
March 7, 1990  
DOCUMENT TYPE: product announcement ISSN: 0899-9341 LANGUAGE:  
ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 1687 LINE COUNT: 00130

... shows a block diagram of the e compression/decompression system. To  
compress an image, the **pixel** data is read into the chip though the **pixel**  
bus interface. The chip supports all common video formats, including 8-bit  
**grayscale** , 24-bit RGB, CMYK (cyanmagenta-yellow-black), and YUV (Y  
represents brightness, and U and...

15/3,K/67 (Item 32 from file: 148)  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

04498568 SUPPLIER NUMBER: 08125018 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**MicroTV: high-cost TV on a Mac? (Hardware Review) (Aapps Corp. MicroTV  
television-receiver card for Apple Macintosh) (evaluation)**  
Ford, Ric  
MacWEEK, v4, n5, p44(1)  
Feb 6, 1990  
DOCUMENT TYPE: evaluation ISSN: 0892-8118 LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 825 LINE COUNT: 00064

... more-practical functionality.  
The upgrade will boost image quality to what Aapps calls "full VHS  
**resolution** " (256 by 216 pixels), although pictures will still be **gray -  
scale** only. The developers kit is said to provide documentation; source  
**code** in Pascal, C and Object Pascal; and externals for HyperCard and  
SuperCard.  
Compatibility. MicroTV requires...

15/3,K/68 (Item 33 from file: 148)  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

04492196 SUPPLIER NUMBER: 08074568 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**More design effects enhance ImageStudio. (Letraset introduces ImageStudio  
with Effects Modules) (product announcement)**  
MacWEEK, v4, n3, p4(1)  
Jan 23, 1990  
DOCUMENT TYPE: product announcement ISSN: 0892-8118 LANGUAGE:  
ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 144 LINE COUNT: 00011

... control transparency or opacity of any selected shade or object,  
and fine-tune a screen **area** or object on a clipboard before integrating  
it into the full image.

The **halftone** preview module converts **gray - scale pictures** into black-and-white bit-mapped **images** configured with any of several dot shapes. **Halftones** can be previewed on Mac displays of any resolution and can be saved as TIFF...

**15/3,K/69 (Item 34 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

04148010 SUPPLIER NUMBER: 08143323 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Computer speeds spy photos 10 times.**  
Advanced Military Computing, v5, n24, p2(2)  
Nov 20, 1989  
ISSN: 0884-9471 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 632 LINE COUNT: 00049

... 096 patterns similar to those found in a satellite image.  
The compressor then assigns a **code** book address and mean **grayscale** value to each **pixel** group. For a 25 **pixel** square and 1,024-bit **code** book, this information only requires 16 bits. By contrast, transmitting a full description of the...

**15/3,K/70 (Item 35 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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04122426 SUPPLIER NUMBER: 07790780 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Microtek scanner handles color, gray scale for less than \$2,700. (Microtek Lab Inc.) (product announcement)**  
Piffner, Pamela  
MacWEEK, v3, n36, p23(1)  
Oct 10, 1989  
DOCUMENT TYPE: product announcement ISSN: 0892-8118 LANGUAGE:  
ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 318 LINE COUNT: 00025

... director of marketing at Microtek.  
The MSF-300Z Color/Gray scanner, offering a maximum image **area** of 8.5 by 14 inches, provides 300-dpi scanning in monochrome, eight-bit **gray scale** and 24-bit color modes. In one-bit mode the scanner can simulate 64 shades of gray with **halftone** patterns. **Images** can be scaled from 25 percent to 400 percent.

In addition to a desk accessory...

**15/3,K/71 (Item 36 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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03943685 SUPPLIER NUMBER: 07873012  
**CSS to demonstrate 300-dpi 4-color printer at Comdex. (CSS Laboratories Inc OA Writer Color Magic printer) (product announcement)**  
Brownstein, Mark  
InfoWorld, v11, n46, p42(1)  
Nov 13, 1989  
DOCUMENT TYPE: product announcement ISSN: 0199-6649 LANGUAGE:  
ENGLISH RECORD TYPE: ABSTRACT

...ABSTRACT: per page. It can handle paper up to 11 x 17 inches and produce 64 **gray scales** per color for a total of 16.6 million dithered colors. The Color Magic Printer uses the Generic **Raster** Image Processor (GRIP) transputer-based controller to convert software commands into generic **code** sent to the printer engine. It currently includes drivers for AutoCAD, GEM, Windows, and WordPerfect...

**15/3,K/72 (Item 37 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

03915840 SUPPLIER NUMBER: 07627869 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**A primer on desktop scanners.**

Beale, Stephen; Cavuoto, James

Folio: the Magazine for Magazine Management, v18, n6, p100(5)

June, 1989

ISSN: 0046-4333 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT

WORD COUNT: 3235 LINE COUNT: 00245

... your pages to a service bureau with a high-resolution imagesetter (2540 dpi), the resolution- **gray scale** trade-off becomes irrelevant. You could have **halftone cells** with eight dots on a side--enough for 256 levels of gray--and still get...

**15/3,K/73 (Item 38 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

03907152 SUPPLIER NUMBER: 07619397 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Top-quality quality control at PC-imaging prices. (personal computer imaging systems)**

Forrester, Steve; Butler, Bob

Research & Development, v31, n5, p94(4)

May, 1989

LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT

WORD COUNT: 1742 LINE COUNT: 00137

... combined or individual processing and display.

Acquisition and processing speeds also are considerations. Each individual **pixel** is assigned a digital **code** that represents its brightness level, or **gray - scale** intensity. The MV1 has 8bit **resolution** which produces 256 shades of differentiation. Most conventional boards have 6-bit **resolution** and 64 shades of differentiation.

If an RS-170 input signal is being used, the...

**15/3,K/74 (Item 39 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
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03898344 SUPPLIER NUMBER: 07540887 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**System survey: desktop scanners; though dabbling in color indicates where the technology is headed, most scanners are applied to basic activities. (includes related information) (Focus on Design)**

Esler, Bill

Graphic Arts Monthly, v61, n4, p95(3)

April, 1989

ISSN: 1047-9325 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT

WORD COUNT: 1817 LINE COUNT: 00143

... the scanner must capture 650 dots to the inch to generate the most accurate halftone **cell** . (See GAM, January, 1989, p . 98).

For a typical 300 dpi desktop scanner, then, **halftone** capture would be limited to a 30-line screen **photo** . This isn't an issue if the purpose of the output is to provide a...

**15/3,K/75 (Item 40 from file: 148)**

DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

03883485 SUPPLIER NUMBER: 07136658 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Black-and-white magic. (software for manipulating gray-scale digital images)**

McMillan, Thomas M.

Computer Graphics World, v12, n3, p63(4)

March, 1989

ISSN: 0271-4159

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2171 LINE COUNT: 00175

... much Linotronic time that the cost is prohibitive."

These two issues--the unwieldy size of **gray - scale** files and the quality of a **halftone** output on a laser printer or imagesetter--are problem **areas** in current **gray - scale image** -manipulation technology. Letraset has aggressively attacked the first issue in version 1.5 of ImageStudio...

**15/3,K/76 (Item 41 from file: 148)**

DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

03840083 SUPPLIER NUMBER: 07253919 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Products. (hand-held scanners) (buyers guide)**

PC Week, v6, n1, p97(2)

Jan 9, 1989

DOCUMENT TYPE: buyers guide

ISSN: 0740-1604

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT

WORD COUNT: 2402 LINE COUNT: 00184

... of 2.5 inches. The maximum scanning rate is 2 inches per second, and the **gray - scale** mode can **code** for 16 levels of gray using three different dither patterns. **Resolution** is user-selectable at 200, 300 and 400 dots per inch.

The unit is packaged...

**15/3,K/77 (Item 42 from file: 148)**

DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

03485705 SUPPLIER NUMBER: 06458065 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Novel DSP boards break through speed bottlenecks. (digital signal processing, includes related articles on bus transfer rates, filters, and measuring DSP performance data) (Electronic Design Report)**

Phillips, Barry W.

Electronic Design, v36, n4, p132(13)

Feb 18, 1988

ISSN: 0013-4872      LANGUAGE: ENGLISH      RECORD TYPE: FULLTEXT  
WORD COUNT: 4538      LINE COUNT: 00344

... using I/O ports. Consequently, the board can take on such image-processing tasks as **gray - scale** processing, compression, scanner data processing, vector-to- **raster** conversion, and vice-versa.

To accelerate vector and scalar processing, Mercury Computer Systems based its...

**15/3,K/78      (Item 43 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2003 The Gale Group. All rts. reserv.

03332742      SUPPLIER NUMBER: 05087026      (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Interpress standard for color printers and workstations.**  
Buckley, Robert R.  
Graphic Arts Monthly, and The Printing Industry, v59, p53(3)  
July, 1987  
ISSN: 0017-3312      LANGUAGE: ENGLISH      RECORD TYPE: FULLTEXT  
WORD COUNT: 1847      LINE COUNT: 00149

... operator, returns the color operator rgbOp255 for 8-bit red, green, blue samples.

The Xerox **Raster** Encoding Standard [Figure 3], which uses the Interpress language to describe **gray - scale raster** images, already defines color models for **gray - scale** reflectance (Xerox/GrayLinear), density, lightness (Xerox/GrayVisual), and samples.

Color extension  
We now seek to...

**15/3,K/79      (Item 1 from file: 160)**  
DIALOG(R)File 160:Gale Group PROMT(R)  
(c) 1999 The Gale Group. All rts. reserv.

02242131  
**Minolta Camera Offers Compact B4-size Facsimile Model**  
Office Equipment & Products      January, 1989      p. 23  
ISSN: 0387-5245

Minolta Camera is offering a B4 facsimile unit that has the ability to reproduce a **gray scale** of 32 **halftone** gradations. The new Faxace MF361 device's **image** space distinguishing system determines a document's text and photo **sections**. Among other features, the fax has an automatic telephone answering function and sequential broadcasting for...

**15/3,K/80      (Item 2 from file: 160)**  
DIALOG(R)File 160:Gale Group PROMT(R)  
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01820414  
**NEW VISION SYSTEM USES INTEL 80386 FOR 20 TIMES SPEED INCREASE.**  
News Release      October 14, 1987      p. 1

... buffers. This eliminates virtually all image buffer boundary constraints imposed by conventional hardware-based systems. **Pixel** processing **code** is dynamically optimized to window size to achieve near theoretical throughput. For example, single frame...

15/3,K/81 (Item 3 from file: 160)  
DIALOG(R)File 160:Gale Group PROMT(R)  
(c) 1999 The Gale Group. All rts. reserv.

01479369

**Datacopy builds scanning system for desktop-publishing vendors.**  
MINI MICRO SYSTEMS October, 1986 p. 31,33+1

... but also converts graphics and continuous-tone art, such as photographs or rendered drawings, into **gray scale** information and **halftones** . Halftoning is the process by which continuous tones are converted into binary B&W information that printers can reproduce. Prescript captures images at 8 bits/ **pixel** , allowing for 256 levels of **gray scale** . **Resolution** can be controlled at 100, 150, 200 or 300 dots/in. A document page can...

... in each window can be captured in the most efficient or appropriate way--as a **halftone** or **gray scale** or, for written material, in ASCII **code** . In a database, the text portion could be used to find the document through a...

15/3,K/82 (Item 4 from file: 160)  
DIALOG(R)File 160:Gale Group PROMT(R)  
(c) 1999 The Gale Group. All rts. reserv.

00929583

**Digital transmission of satellite video signals offer several advantages:**  
**enhanced reliability, miniaturization and increased channel capacity,**  
**according to RH Stafford, Halifax Engineering (Alexandria, VA).**  
Satellite Communications March, 1983 p. 28-34

... of the analog signal. However, bandwidth can be reduced by lowering the spatial, temporal and **gray - scale resolution** of the pictures. False contouring can be corrected by using pseudorandom noise, differential pulse **code** modulation and bit-plane **encoding** . Bandwidth reductions can be achieved through several transform coding techniques: Fast Fourier transform, Slant transform...

15/3,K/83 (Item 5 from file: 160)  
DIALOG(R)File 160:Gale Group PROMT(R)  
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00360591

**Versatec's new universal Fortran package can produce full gray-scale halftones on any Versatec electrostatic plotter.**  
Communications News September, 1977 p. 77

... contrast and sharp detail. Blacks are 100% black, and whites are 100% white; only gray **areas** are screened. The result is a digitally produced **gray - scale image** that compares with lithographic **halftones**. While Versaplot **gray scale** maintains high contrast, it also provides for fine gradations in **gray scale** with over 32 levels of gray, more refined scaling than the eye can differentiate. **Gray scale** is emulated through controlled variation in dot cluster ( **halftone cells** ) produced on the electrostatic plotter. With 200 dot/in. Versatec plotters, 40,000 dots are...



**15/3,K/84 (Item 1 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)  
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02192466 SUPPLIER NUMBER: 20132693 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Taming the graphics beast. (includes related article on JPEG) (Technology Information)**  
Held, Gilbert  
Network VAR, v6, n1, p57(6)  
Jan, 1998  
ISSN: 1082-8818 LANGUAGE: English RECORD TYPE: Fulltext; Abstract  
WORD COUNT: 3293 LINE COUNT: 00260

... such popular lossless compression methods as Lempel-Zir-Welch (LZW) used in modems and Huffman **coding** used in faxes, JPEG is a lossy compression method. This means that an image compressed through the use of JPEG may not be identical **pixel** by pixel to the noncompressed image. JPEG actually represents a series of operations performed to...

**15/3,K/85 (Item 2 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)  
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02135337 SUPPLIER NUMBER: 19988395 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**New method offered to suppress 'subject moire.' (Ralph Levien discovers way to analyze and filter effects) (Technology Information)**  
Seybold Report on Publishing Systems, v27, n5, p53(1)  
Nov 17, 1997  
ISSN: 0736-7260 LANGUAGE: English RECORD TYPE: Fulltext  
WORD COUNT: 539 LINE COUNT: 00045

... patents on screening methods, has found a way to analyze and filter the effects of **image** moir(Theta). His technique replaces **areas** with moir(Theta) in the **halftone** dots with "clean" dots. It works by comparing the result of a screened **image** with the original screening of a digital gray-scale image. Where moir(Theta) appears, a...

**15/3,K/86 (Item 3 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)  
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02093158 SUPPLIER NUMBER: 19688555 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Built for existing users not the first-timer. (Autodesk's AutoCAD Release 14 CAD software) (Desktop Directions) (Software Review) (Evaluation)**  
Cunningham, Cliff  
Computing Canada, v23, n16, p28(2)  
August 5, 1997  
DOCUMENT TYPE: Evaluation ISSN: 0319-0161 LANGUAGE: English  
RECORD TYPE: Fulltext; Abstract  
WORD COUNT: 820 LINE COUNT: 00065

... Visual Basic 4.0.  
A major improvement in Release 14 is the ability to insert **raster** -supported images on a vector-based CAD drawing. This gives you the option of adding scanned documents or microfilm drawings, aerial or satellite photos, **watermarks** , logos or computer-generated images to vector- based

CAD drawings. They can be imported in...

**15/3,K/87 (Item 4 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)  
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02041060 SUPPLIER NUMBER: 18977687 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Copyright protection: understanding your options. (includes related articles on IP white paper and Digital Object Identifiers) (Industry Trend or Event)**

McKenzie, Matt

Seybold Report on Internet Publishing, v1, n4, p6(9)  
Dec, 1996

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 7762 LINE COUNT: 00617

... 150 a year.

The PictureMarc encoder operates in several color spaces, including cmyk, rgb, lab, **gray - scale** and indexed color. The **encoder** can handle any of the file formats Photoshop supports, though it requires a minimum 256x256- **pixel** image to embed a **watermark**. The software will automatically adjust the intensity of the **watermark**, making it more robust in data-rich areas of an image (that is, those with...

...the variety within the image data. The FBI system works only on still images, supporting **bitmapped** rgb, cmyk and **gray - scale** color spaces. HighWater claims that the **watermark** will survive jpeg compression, printing and various editing effects, provided that the image is not...

**15/3,K/88 (Item 5 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01995062 SUPPLIER NUMBER: 18791163 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Brother HL-720, Brother HL-730. (Brother International's low-cost laser printers) (one of 15 evaluations of 30 inkjet and laser printers in "Personal Printers Showdown") (Hardware Review) (Evaluation)**

Karney, James

PC Magazine, v15, n19, p147(1)

Nov 5, 1996

DOCUMENT TYPE: Evaluation ISSN: 0888-8507 LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 561 LINE COUNT: 00044

... have been 90 percent gray looked almost black--and there was occasional banding in dark **areas** on both solid and gradient fills. **Halftone images** and graphics produced on the HL-730 were a bit less pleasing than those of...

**15/3,K/89 (Item 6 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01955119 SUPPLIER NUMBER: 18449944 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Wicked code. (color quantization using the Gervautz-Purgathofer octree method) (Technology Tutorial) (Tutorial)**

Prosise, Jeff

Microsoft Systems Journal, v11, n8, p97(9)

August, 1996

DOCUMENT TYPE: Tutorial ISSN: 0889-9932

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 3054 LINE COUNT: 00231

... is simpler and faster because the palette colors can be picked without regard to the **image** colors. With Win32, you can create a **halftone** palette in one line of **code** by calling the CreateHalftonePalette API function. In 256-color environments, CreateHalftonePalette returns an HPALETTE referencing...

...6 x 6 x 6 color cube plus a variety of handpicked colors useful for **grayscale** imaging and other applications. The wide distribution of colors in a **halftone** palette ensures that no color in the image will undergo a wholesale color shift. On...

**15/3,K/90 (Item 7 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01939018 SUPPLIER NUMBER: 18287316 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**The big picture. (review of five large-format flatbed scanners) (includes relates article on scanners) (Hardware Review) (Evaluation)**

Loyola, Roman

MacUser, v12, n7, p80(6)

July, 1996

DOCUMENT TYPE: Evaluation ISSN: 0884-0997

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 3425 LINE COUNT: 00259

... 333 percent.

The ScanMate F8 can handle positive and negative film as well as color, **grayscale**, continuous-tone, and **halftone images** and line art. The scanning **area** is 11 x 17 inches for reflective media and 8 x 10 inches for transmissive...

**15/3,K/91 (Item 8 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01911548 SUPPLIER NUMBER: 17891949 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**PaperPort Vx: desktop scanner just gets better. (Visioneer Communications sheetfed gray-scale scanner) (Hardware Review) (Evaluation)**

Beckman, Mel

Macworld, v13, n3, p82(1)

March, 1996

DOCUMENT TYPE: Evaluation ISSN: 0741-8647

LANGUAGE: English

RECORD TYPE: Fulltext

WORD COUNT: 474 LINE COUNT: 00043

... documents with a keyword search.

This version introduces a ream of new features: 8-bit **gray scale**, faster scanning, 400-dpi **resolution**, additional application links, Power Mac-native **code**, improved OCR speed and accuracy, Finder drag-and-drop support, and future upgradability to a...

15/3,K/92 (Item 9 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01889737 SUPPLIER NUMBER: 17764423 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Printers get personal. (comparisons of low-cost personal printers, personal laser printers, inkjets and high-speed laser printers) (Buyers Guide)**  
Jerome, Marty  
PC/Computing, v9, n2, p140(11)  
Feb, 1996  
DOCUMENT TYPE: Buyers Guide ISSN: 0899-1847 LANGUAGE: English  
RECORD TYPE: Fulltext; Abstract  
WORD COUNT: 2772 LINE COUNT: 00218

... Print quality in both text and graphics was superb. Text popped off the page and **halftones** showed surprising subtleties in **grayscale** . A simulated **watermark** feature lets you print gray text messages--such as confidential, copy, or top-secret--under...

15/3,K/93 (Item 10 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01829626 SUPPLIER NUMBER: 17280321 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Novell to add TrueDoc to Envoy. (Novell adds TrueDoc 2.0 font technology to Envoy) (Brief Article)**  
Seybold Report on Desktop Publishing, v9, n12, p25(1)  
August 14, 1995  
DOCUMENT TYPE: Brief Article ISSN: 0889-9762 LANGUAGE: English  
RECORD TYPE: Fulltext  
WORD COUNT: 196 LINE COUNT: 00019

Novell is getting version 2.0 of TrueDoc, which adds **gray - scale** antialiasing, improved hinting, support for **bitmap** fonts and the ability to access multiple Portable Font Resources. In version 2.0, Bitstream...

15/3,K/94 (Item 11 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01797910 SUPPLIER NUMBER: 17087312 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**High-end hydra hits the market. (Mita Copystar America AF-1000) (New & Improved) (Product Announcement) (Brief Article)**  
Somers, Asa  
PC Magazine, v14, n13, p66(1)  
July, 1995  
DOCUMENT TYPE: Product Announcement Brief Article ISSN: 0888-8507  
LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 182 LINE COUNT: 00016

TEXT:

...transmits documents at 10-ppm, while the model scans and prints documents at 400-dpi **resolution** , supporting 128 levels of **gray scale** . It comes with a 50-sheet automatic document feeder for letter-, legal-, or ledger-size...

15/3,K/95 (Item 12 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01785095 SUPPLIER NUMBER: 16898015 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**QMS 2001 Knowledge System. (QMS Inc) (one of 12 evaluations of 15  
multifunction printers in "Swiss Army Printers") (Hardware  
Review) (Evaluation)**

Brown, Bruce

PC Magazine, v14, n11, p202(1)

June 13, 1995

DOCUMENT TYPE: Evaluation ISSN: 0888-8507 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 613 LINE COUNT: 00047

... steps was only fair, however.

The QMS lets you copy in either line-art or **gray - scale** mode, and  
in 200-dpi or 400-dpi **resolution** . You can make up to 99 copies each of 20  
originals stacked in the automatic...

**15/3,K/96 (Item 13 from file: 275)**  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01777762 SUPPLIER NUMBER: 16870820 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Applications of optical scanners in an academic center.**

Molinari, Carol; Tannenbaum, Robert S.

T H E Journal (Technological Horizons In Education), v22, n8, p60(4)

March, 1995

ISSN: 0192-592X LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2920 LINE COUNT: 00234

... input medium does not alter the output file; you will still have a  
file with **gray scale** or color information **encoded** for each **pixel** in  
the format you have chosen, and you will be able to process the image...

**15/3,K/97 (Item 14 from file: 275)**  
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01773704 SUPPLIER NUMBER: 16839468 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Special delivery. (portable document software file distribution) (Breaking  
the Ties that Bind)**

Felici, James

Windows Sources, v3, n5, p133(3)

May, 1995

ISSN: 1065-9641 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 1548 LINE COUNT: 00122

... white images using ITU-T (formerly CCITT) Group 4 or 5, LZW, or  
run-length **encoding** . Text gets the LZW treatment as well. Acrobat  
Distiller also lets you downsample hi- **resolution** images, a useful feature  
when you target on-screen or low-resolution printing only.  
Common...

**15/3,K/98 (Item 15 from file: 275)**  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01724989 SUPPLIER NUMBER: 15999731 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Scanning solutions: some helpful hints to make the most of your desktop scanner. (Tutorial)**

Simone, Luisa

Home Office Computing, v12, n12, p102(2)

Dec, 1994

DOCUMENT TYPE: Tutorial ISSN: 0899-7373 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 1384 LINE COUNT: 00106

... 256 colors or 24 bits for 16.7 million colors.

In contrast, printers simulate **grayscale** and color variations by arranging dots into larger groupings called **halftone cells**. Typically, desktop laser printers generate 53 **halftone cells** per inch, whereas high-resolution **image** setters print up to 133 **halftone cells** per inch. Here's the tricky part: While printer dots are typically measured in dots per inch (dpi), **halftone cells** are measured in lines per inch (lpi).

When you calculate the appropriate resolution for **grayscale** and color images, use the classic formula where you multiply the lpi setting for your...

**15/3,K/99 (Item 16 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01711969 SUPPLIER NUMBER: 16270955 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Warning: graphical language ahead. (graphic formats)**

Lake, Matthew

PC-Computing, v7, n12, p272(1)

Dec, 1994

ISSN: 0899-1847 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 646 LINE COUNT: 00048

...ABSTRACT: save disk space for graphics files by choosing the optimum file format based on monochrome, **gray - scale**, color and number of colors used. One of the most popular file formats under Windows is the Microsoft-developed **bitmap** file, employed in desktop wallpapers and the Windows' graphics program PaintBrush. However, a traditional Windows **bitmapped** file is 55% to 60% larger than a PCX file. PCX employs a built-in run-length **encoding** (RLE) compression technique that works well with monochrome images. To transport files between PCs and...

**15/3,K/100 (Item 17 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01683984 SUPPLIER NUMBER: 15377534 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Low-resolution monochrome output. (Seybold Special Report: Seybold Seminars Boston '94, part I) (Product Announcement)**

Seybold Report on Publishing Systems, v23, n15, pS61(2)

April 22, 1994

DOCUMENT TYPE: Product Announcement ISSN: 0736-7260 LANGUAGE:

ENGLISH RECORD TYPE: FULLTEXT

WORD COUNT: 1469 LINE COUNT: 00112

... DLL+ can do color and run up to 3,000 dpi; it can also use **gray** -

**scale** antialiasing to improve the appearance of type. Both versions produce a page **bitmap** in the form of a bmp file, although the oem can adapt the **code** to produce other formats. Later this year, Pipeline said, it would offer a version that...

**15/3,K/101 (Item 18 from file: 275)**  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01683983 SUPPLIER NUMBER: 15375798 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**High-resolution output. (includes related articles on how to obtain a**  
**Hyphen print sample and naming a new screening technology) (Seybold**  
**Special Report: Seybold Seminars Boston '94, part I)**  
Seybold Report on Publishing Systems, v23, n15, pS47(15)  
April 22, 1994  
ISSN: 0736-7260 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 15029 LINE COUNT: 01167

... Comparing products. In comparing different vendors' offerings, Carli suggested, note how well each one encodes **gray - scale** information, how well it passes through detail or spatial-frequency information and what its interscreen interactions are.

We also have to be more careful about **resolution**, avoiding the loose definitions that have worked in the past. We have to be more...

**15/3,K/102 (Item 19 from file: 275)**  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01663263 SUPPLIER NUMBER: 14612254 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Swiss Army knife for graphics. (DeltaPoint Inc.'s Graphics Tools graphics**  
**utility software suite) (Software Review) (Evaluation)**  
Ellison, Carol  
Computer Shopper, v14, n1, p440(1)  
Jan, 1994  
DOCUMENT TYPE: Evaluation ISSN: 0886-0556 LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 967 LINE COUNT: 00078

... into the image processor. Furthermore, it will match points in images, letting you stitch together **images** that contain overlapping **areas**. A scanning option allows you to convert **halftones** to **gray - scale images** as you scan, but the process reduces a 6x6-pixel **cell** to a single **cell** of the most appropriate gray shade, reducing the overall size of the image by about...

**15/3,K/103 (Item 20 from file: 275)**  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01623701 SUPPLIER NUMBER: 14425900 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**CUG #381: JPEG software. (the fourth public release of the Independent JPEG**  
**Group's free JPEG software) (CUG Product Focus ) (Column)**  
Volkman, Victor R.  
C Users Journal, v11, n10, p113(6)  
Oct, 1993  
DOCUMENT TYPE: Column ISSN: 0898-9788 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 3686 LINE COUNT: 00287

... driven translator. The currently supported image file formats are: PPM (PBMPLUS color format), PGM (PBMPLUS **gray - scale** format), GIF (up to 256 colors), Targa (up to 24-bit color), and RLE (Utah **Raster** Toolkit format). The software supports RLE only if the URT library is available. The compression...

**15/3,K/104 (Item 21 from file: 275)**  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01620543 SUPPLIER NUMBER: 14368676 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**JMODEM, JPEG, and GZIP. (new shareware volumes from the C Users' Group) (CUG New Releases) (Column)**  
Volkman, Victor R.  
C Users Journal, v11, n9, p119(4)  
Sept, 1993  
DOCUMENT TYPE: Column ISSN: 0898-9788 LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 1943 LINE COUNT: 00159

... linedriven translator. The currently supported image file formats are: PPM (PBMPLUS color format), PGM (PBMPLUS **gray - scale** format), GIF, Targa, and RLE (Utah **Raster** Toolkit format). RLE is supported only if the URT library is available. The compression program...

**15/3,K/105 (Item 22 from file: 275)**  
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01613603 SUPPLIER NUMBER: 14106039 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Do-it-yourself scanning for small or home offices. (Umax Technologies Inc.'s Umax OA-1 ScanOffice hardware/software bundle) (Hardware Review) (Evaluation)**  
Brownstein, Mark  
Computer Shopper, v13, n9, p414(1)  
Sept, 1993  
DOCUMENT TYPE: Evaluation ISSN: 0886-0556 LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 751 LINE COUNT: 00060

... its light source, and features a hinged lid that covers the 8.5x14-inch scanning **area**. Using the included software, you can select **gray - scale**, **halftone**, or line-art scanning modes. Some of the software also lets you select scanning resolutions...

**15/3,K/106 (Item 23 from file: 275)**  
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01494313 SUPPLIER NUMBER: 11669592 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Easy entry; shopping for an optical scanner. (Buying, includes related articles on how to read a scanner ad, scanner software and different types of scanners)**  
Rowell, Dave



PC Sources, v3, n1, p200(12)

Jan, 1992

ISSN: 1052-6579

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 7972

LINE COUNT: 00603

... gray shades to black dots. It takes an area several dots square to represent one **area** of gray. The more gray shades you represent, the lower the effective resolution. In addition, **halftone images** are not amendable to modification with a **gray - scale image** editor. If you want true gray scaling, make sure that the gray shades in the...

**15/3,K/107 (Item 24 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01451622 SUPPLIER NUMBER: 11374011 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Image makers. (Hardware Review) (Apple's LaserWriter IIx and IIg printers and OneScanner scanner) (includes related articles on new FinePrint and PhotoGrade technologies, future of TrueType) (evaluation)**

Bortman, Henry

MacUser, v7, n11, p98(8)

Nov, 1991

DOCUMENT TYPE: evaluation

ISSN: 0884-0997

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 3817

LINE COUNT: 00285

... involves grouping individual dots into "cells" and varying the number of dots printed in the **cells**, which produces the illusion of differing shades of gray. For **halftone images** to look good, a printer needs to have enough dots to produce a relatively high...

**15/3,K/108 (Item 25 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01427967 SUPPLIER NUMBER: 10587186 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**The JPEG still picture compression standard. (Joint Photographic Experts Group) (technical)**

Wallace, Gregory K.

Communications of the ACM, v34, n4, p30(15)

April, 1991

DOCUMENT TYPE: technical

ISSN: 0001-0782

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 8529

LINE COUNT: 00698

...ABSTRACT: lossless mode of operation uses a predictive method which is independent of DCT processing. Hierarchical **encoding** is best used in applications where a high **resolution** image needs to be accessed by a lower- **resolution** device that lacks the buffer capacity for image reconstruction or scale-down for the lower...

**15/3,K/109 (Item 26 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01426022 SUPPLIER NUMBER: 10530172 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Designing for fax. (designing facsimiles) (Desktop Publishing: Design)**

**(tutorial)**

Tinkel, Kathleen

MacUser, v7, n5, p201(5)

May, 1991

DOCUMENT TYPE: tutorial ISSN: 0884-0997

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2305 LINE COUNT: 00179

... fax modems currently include a PostScript interpreter, which would bring the language's device- and **resolution** -independence to faxing. Because fax-modem software isn't able to interpret PostScript **code**, it sends a low- **resolution** (PICT) screen image instead. (If an EPS file doesn't include an embedded PICT, the...

**15/3,K/110 (Item 27 from file: 275)**

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01379615 SUPPLIER NUMBER: 09532257 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Picture Publisher Plus 2.5 touches up color images. (Astral Development Corp.'s graphics software) (Software Review) (evaluation)**

Janus, Susan

PC-Computing, v3, n11, p72(1)

Nov, 1990

DOCUMENT TYPE: evaluation ISSN: 0899-1847

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 510 LINE COUNT: 00040

... picture or use the program's masking tools to make selective changes to objects or **areas** within the picture. The airbrush tools let you spray out imperfections.

Picture Publisher still retouches **gray - scale images**, too. The resulting black-and-white **halftones** can be cropped, scaled, rotated and exported as TIFF files to desktop publishing packages or...

**15/3,K/111 (Item 28 from file: 275)**

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01371463 SUPPLIER NUMBER: 08761834 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Technicolor and cinemascope. (human perception of computer-generated color) (Programming on Purpose) (column)**

Plauser, P.J.

Computer Language, v7, n8, p17(5)

August, 1990

DOCUMENT TYPE: column ISSN: 0749-2839

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 3409 LINE COUNT: 00250

...ABSTRACT: to red, one to green and one to blue; color displays usually cannot match the **resolution** of **gray - scale** displays because they use three color dots in each **pixel**. It was determined in an earlier column that 256 shades of gray are enough for...

**15/3,K/112 (Item 29 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01356443 SUPPLIER NUMBER: 08429866 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Typographic style is more than cosmetic.**

Oman, Paul W.; Cook, Curtis R.

Communications of the ACM, v33, n5, p506(14)

May, 1990

ISSN: 0001-0782

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 6313 LINE COUNT: 00586

... visualization" based on principles of effective graphics design. His approach is to enhance the source **code** through the use of multiple fonts, variable character widths, proportional character spacing, and **gray - scale** tints; the enhanced source **code** is output on high- **resolution** , bit-mapped displays and laser printers. He found a twenty-five-percent increase in the...

**15/3,K/113 (Item 30 from file: 275)**

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01323543 SUPPLIER NUMBER: 08059642

**Video VAX. (vidoeetaping from a VAX workstation)**

Marcus, Robert P.

DEC Professional, v9, n1, p54(2)

Jan, 1990

ISSN: 0744-9216

LANGUAGE: ENGLISH

RECORD TYPE: ABSTRACT

ABSTRACT: Video scan converters serve as interfaces between the high- **resolution** output of workstations and the lower **resolution** of composite video devices. Converters perform line and **pixel** averaging on **grayscale** or full-color input, while providing genlock, sync generation and **encoding** , to produce standard composite video output in real-time without interruption or processing burdens on...

**15/3,K/114 (Item 31 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01310567 SUPPLIER NUMBER: 07476202 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Fit to print. (Hardware Review) (evaluations of 16 PostScript printers)**

**(includes sidebars on PostScript printer utilities, toners, and RISC chips in printers) (evaluation)**

Bortman, Henry; Abernathy, Aileen

MacUser, v5, n9, p178(22)

Sept, 1989

DOCUMENT TYPE: evaluation

ISSN: 0884-0997

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 10232 LINE COUNT: 00795

... be sent to a postScript printer; each device will make maximum use of its available **resolution** and **gray - scale** / color capabilities to create the final image. QuickDraw is not nearly as flexible.

Choosing the...

**15/3,K/115 (Item 32 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01295721      SUPPLIER NUMBER: 07229458      (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Gray expectations. (desktop scanners) (includes a glossary and related  
articles on inexpensive scanners, hand-held scanners, software interface  
standards and optical character recognition devices, and capsule reviews)**  
Abernathy, Aileen; Weiss, Peter  
MacUser, v5, n6, p170(17)  
June, 1989  
ISSN: 0884-0997      LANGUAGE: ENGLISH      RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 10352      LINE COUNT: 00807

... off (white). The greater the number of pixels that were turned on  
in a particular **area**, the darker the simulated "gray." In the scanner  
world, dithered **images** are also called **halftones**, so named for their  
resemblance to traditional **photographic halftones** (see glossary).

Today's scanners can capture true grays because they store more  
information per...you select the overall image to be scanned and then  
select up to three smaller **areas** that can be set to line art while the  
rest of the **image** is **halftoned**, or vice versa. AppleScan has two  
nonoverlapping windows, which can have different resolutions as well...the  
Clipboard or Scrapbook -- but HyperScan makes it easy. AppleScan lets you  
scan irregularly shaped **areas**, and an adaptive filter converts scanned  
**gray - scale images** into **halftones**. Amazingly enough, AppleScan can  
save but not open TIFF files; it opens only PICT-format...Can set Startup  
Prefs for scan parameters. User-adjustable threshold control. Adaptive  
filter converts scanned **gray - scale images** to **halftones**. Prints  
**sections** of scans. Cons: Poor default thresholding for line art; worst  
overall at text extraction. AppleScan...

15/3,K/116      (Item 33 from file: 275)  
DIALOG(R) File 275:Gale Group Computer DB(TM)  
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01284696      SUPPLIER NUMBER: 07231449      (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**A touch of gray. (gray-scale desktop publishing) (includes related article  
on producing halftones)**  
Beale, Stephen; Cavuoto, James; Abernathy, Aileen  
MacUser, v5, n2, p257(8)  
Feb, 1989  
ISSN: 0884-0997      LANGUAGE: ENGLISH      RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 3099      LINE COUNT: 00237

... sees''), so everything was either black or white. Some scanner  
models could sense variations in **gray scale** and compensated by  
performing the dithering process at the input end, amassing pixels into  
**halftone cells** that were stored as bit-mapped **images**. The scaling  
options for such **images** are limited, however, since the dither pattern  
created during scanning is optimized for the original...

...desired effect by altering the order in which the spots are turned on  
within the **halftone cells**. Choose Your Partner

A few programs go beyond the basics, providing extensive control over  
**gray - scale** output. MacImage, the scanning software that comes with  
Datacopy scanners, has contrast controls that let...

15/3,K/117      (Item 34 from file: 275)  
DIALOG(R) File 275:Gale Group Computer DB(TM)  
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01257019 SUPPLIER NUMBER: 07034845 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Scanning like it should be: the Apple Scanner is dependable and competitively priced. (Hardware Review) (evaluation)**

Fraser, Bruce

MacWEEK, v2, n40, p36(2)

Oct 4, 1988

DOCUMENT TYPE: evaluation ISSN: 0892-8118 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 1445 LINE COUNT: 00109

... a wide latitude of options. As with line art, settings are displayed in the representative area .

**Gray - scale images** must be **halftoned** before they can be printed, but users who will be transferring scans to **image** -retouching applications will want to keep their documents gray scaled. Users without gray-scale monitors...

**15/3,K/118 (Item 35 from file: 275)**  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01251024 SUPPLIER NUMBER: 06825799 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**'Gray' days lie ahead in graphics software. (gray-scale graphics)**

Brennan, Laura

PC Week, v5, n28, p94(1)

July 11, 1988

ISSN: 0740-1604 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 768 LINE COUNT: 00059

... an image, and to scale or rotate it easily. However, in order to print a **gray - scale image** , today's technology requires that users first create a **halftone image** .

A **halftone** image simulates the **gray - scale** by using black and white dots to represent the dark and light **areas** of an **image** , explained Mr. Strum. Most **gray - scale** software includes a function to create a **half - tone image** , he explained.

A good example of such an image is a photograph in a newspaper...

**15/3,K/119 (Item 36 from file: 275)**  
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01249434 SUPPLIER NUMBER: 06744979 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Smartfax. (Hardware Review) (one of ten evaluations of facsimile transmission add-in boards for PCs) (evaluation)**

Raskin, Robin

PC Magazine, v7, n12, p171(2)

June 28, 1988

DOCUMENT TYPE: evaluation ISSN: 0888-8507 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 926 LINE COUNT: 00072

...ABSTRACT: exploit automatic transmission. Background transmission and separate in and out logs are nice features. No **gray scale** control and no control over **resolution** are limitations and occasional program breakdowns are of concern.

15/3,K/120 (Item 37 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01239435 SUPPLIER NUMBER: 06228798 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Apple to show new flatbed scanner within 90 days.**  
Forbes, Jim  
PC Week, v5, n7, p4(1)  
Feb 16, 1988  
ISSN: 0740-1604 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 385 LINE COUNT: 00028

... to a gray scale, ranging from two to 16 shades of gray; specify a limited **area** of the document to be scanned; specify whether a document is **halftone**, line art or graphics; and choose from 75-, 100-, 150-, 200- or 300- dpi **image** resolutions.

Apple is expected to price its scanner at less than \$1,500, Apple sources...

15/3,K/121 (Item 38 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01237480 SUPPLIER NUMBER: 06157448 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Graphics trek: the next generation: Canvas is quick on the draw - but QuickDraw is the fastest gun around. (computer graphics software for Macintosh microcomputers) (Software Review) ( includes a related articles on General Computer's Personal LaserPrinter and about PostScript's history) (evaluation)**  
Chang, Phil Inje  
MacUser, v4, n1, p154(6)  
Jan, 1988  
DOCUMENT TYPE: evaluation ISSN: 0884-0997 LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 2252 LINE COUNT: 00168

... other programs like Graphic Works 1.1, supports this to accommodate a move toward high- **resolution** bit maps (and ultimately, bit maps with **gray scale**, or real, **half - tones** ).

Canvas is laden with features -- the sorts of things you always wished MacDraw and MacPaint...

15/3,K/122 (Item 39 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01210503 SUPPLIER NUMBER: 06203973 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Scanners hit middle ground.**  
Beaver, Jennifer E.  
Computer & Communications Decisions, v19, n15, p52(3)  
Dec, 1987  
LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 1803 LINE COUNT: 00144

... to manipulate the gray scale for greater contrast; cropping, which allows interactive definition of any **area** of an **image** to be scanned; and programmable screening, which allows users to "descreen" **halftones**

from previously scanned **images** .

To produce images, the Pro Imager relies on charge-coupled devices, an array of light...

**15/3,K/123 (Item 40 from file: 275)**  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01176929 SUPPLIER NUMBER: 04322078 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Desktop-publishing software: the upcoming second generation is well worth the investment. (Graphics supplement to PC Week)**  
Cavuoto, James  
PC Week, v3, n33, pS43(5)  
Aug 19, 1986  
ISSN: 0740-1604 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 2233 LINE COUNT: 00181

... gray scales in desktop publishing,' he said. The typical 300-dpi laser printer can produce **photos** with only about 60 **halftone** pixels per inch. [Each **halftone** pixel is composed of a 5-by-5 **cell** of printer dots.] This is roughly equivalent to the coarse screens produced by newspaper letter...

**15/3,K/124 (Item 41 from file: 275)**  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01175954 SUPPLIER NUMBER: 04274084 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Publishing boom augurs bright printer future.**  
Cavuoto, James  
PC Week, v3, n23, p115(2)  
June 10, 1986  
ISSN: 0740-1604 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 1572 LINE COUNT: 00124

... to be 400 dpi, a figure that was recently settled upon by facsimile machine manufacturers.

#### **Half - Tone Photographs**

In the **area** of graphics, future printers will develop the ability to output **halftone photographs** with multiple levels of gray. This is the process used by professional magazines and newspapers to reproduce **photos** . A **half - tone photo** in a newspaper is made up of regularly spaced dots of different sizes; dark **areas** of the photo use larger dots than light areas. Although there may be only 100...

**15/3,K/125 (Item 1 from file: 636)**  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
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03651377 Supplier Number: 47864533 (USE FORMAT 7 FOR FULLTEXT)  
**Steganography: Pictures That Cloak 1,000 Words**  
New Technology Week, v11, n30, pN/A  
July 28, 1997  
Language: English Record Type: Fulltext  
Document Type: Newsletter; Trade  
Word Count: 771

... could indicate ownership, among other things. SSIS can encode a much larger message than digital **watermarking**, which signifies ownership of a digital file. Currently, Marvel is hiding the Treaty of Paris, a message demanding 12 kilobytes, in a 512-by-512- **pixel**, eight- **gray - scale** snapshot of a tank in the Iraqi dessert. And much larger files can be cached...

**15/3,K/126 (Item 2 from file: 636)**

DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2003 The Gale Group. All rts. reserv.

03131198 Supplier Number: 46407179 (USE FORMAT 7 FOR FULLTEXT)

**BANCTEC IMPROVES UT FOR COMMUNITY BANKS**

Item Processing Report, v7, n10, pN/A

May 23, 1996

Language: English Record Type: Fulltext

Document Type: Newsletter; Trade

Word Count: 820

... BancTec boosted staffing, in some cases, for UT development. Pricing for the power encode and **gray scale** modules was not available.

Bill Hurtle, vice president of sales and marketing at Advanced Financial Solutions (AFS) in Oklahoma City, says gray scale improves the **resolution** of endorsements during check research. Hurtle added that the UT's variable speeds, 600 dpm...

**15/3,K/127 (Item 3 from file: 636)**

DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
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03108306 Supplier Number: 46354690 (USE FORMAT 7 FOR FULLTEXT)

**XEROX EXPANDS DISTRIBUTION OF SCANNING PRODUCTS**

Imaging Update, v7, n5, pN/A

May 1, 1996

Language: English Record Type: Fulltext

Document Type: Newsletter; Trade

Word Count: 959

... Image processing intelligence is an important feature of the DocuCS Scanning System. The systems Auto **Segmentation** capability allows the DocuCM 620 scanner to discern text, from **halftones** and **photographs** for each pixel in real time as the document is scanned. The scanner then uses ...

**15/3,K/128 (Item 4 from file: 636)**

DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
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02817789 Supplier Number: 45714737 (USE FORMAT 7 FOR FULLTEXT)

**NOVELL UK: Novell UK announces Hewlett-Packard scanning functionality for AppWare**

M2 Presswire, pN/A

August 7, 1995

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 631



... can access SCL with a fully visual tool and utilise scanning features such as colour, **resolution**, scaling, brightness and contrast in their application without having to understand the complexities of SCL. The ScanJet ALM delivers black and white, dithered, 256 level **grayscale** and 24-bit colour data. "Developers using this ALM and AppWare can deliver solutions that...

**15/3,K/129 (Item 5 from file: 636)**  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2003 The Gale Group. All rts. reserv.

02336076 Supplier Number: 44565424 (USE FORMAT 7 FOR FULLTEXT)  
**PENTAX NAMES SCANNER PRODUCT MANAGER**  
Imaging Update, v5, n4, pN/A  
April, 1994  
Language: English Record Type: Fulltext  
Document Type: Newsletter; Trade  
Word Count: 261

... color for graphics scanning. Both scanners provide 256 levels of gray, up to 600 dpi **resolution**, and come bundled with **Watermark** Discovery Edition software. Suggested list price for the DS6 is \$789, for the DS10 is...

**15/3,K/130 (Item 6 from file: 636)**  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2003 The Gale Group. All rts. reserv.

01359885 Supplier Number: 41663210 (USE FORMAT 7 FOR FULLTEXT)  
**UNISYS, NCR ROLL OUT NEW IMAGE PRODUCTS AND ENHANCEMENTS**  
Item Processing Report, v1, n20, pN/A  
Nov 8, 1990  
Language: English Record Type: Fulltext  
Document Type: Newsletter; Trade  
Word Count: 536

... The processor is able to take pictures of both sides of a check, with captured **resolutions** of 200 dots per inch for black-and-white images and 100 dots per inch for **gray scale** ones. The black-and-white images are compressed in compliance with CCITT Group 4 standards...

Set	Items	Description
S1	40	AU=(SHAKED D? OR SHAKED, D?)
S2	146988	RESOLUTION? OR BITMAP? OR CONTONE? OR PIXEL OR PIXMAP OR R- ASTER
S3	514182	IMAGE? ? OR PICTURE? OR PICTORIAL OR PICTORAL OR PHOTO? ? - OR PHOTOGRAPH? OR INDICIA OR INDICIUM
S4	263904	CODE OR ENCOD? OR CODING OR WATERMARK?
S5	7509	GRAY()SCAL? OR GRAYSCAL?
S6	1224818	SEGMENT? OR SECTION? ? OR REGION? ? OR AREA? ? OR CELL? ?
S7	6170	HALFTONE? OR HALF()TONE?
S8	4	S1 AND S5
S9	265	(S5(S)S2)(S)S7
S10	179	S9 AND IC=(G06F? OR H04N?)
S11	18	S10(S)S4

? show file

File 348:EUROPEAN PATENTS 1978-2003/Nov W02

(c) 2003 European Patent Office

File 349:PCT FULLTEXT 1979-2002/UB=20031106,UT=20031030

(c) 2003 WIPO/Univentio

9/5/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2003 Thomson Derwent. All rts. reserv.

014634332 \*\*Image available\*\*  
WPI Acc No: 2002-455036/200248  
XRPX Acc No: N02-358826

**Generating fraud resistant graphical payment indicia for e.g. franking  
mail pieces with postal charges in manner that provides substantial  
defense against fraudulent photocopy attack**

Patent Assignee: HEWLETT-PACKARD CO (HEWP ); LEVY A (LEVY-I); SAW C W  
(SAWC-I); SHAKED D (SHAK-I); YEN J (YENJ-I)

Inventor: LEVY A; SAW C W; **SHAKED D** ; YEN J

Number of Countries: 098 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200245028	A2	20020606	WO 2001US45069	A	20011128	200248 B
US 20020103764	A1	20020801	US 2000728297	A	20001201	200253
AU 200239400	A	20020611	AU 200239400	A	20011128	200264

Priority Applications (No Type Date): US 2000728297 A 20001201

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 200245028	A2	E	19	G07B-017/04	
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Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ  
PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW  
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

US 20020103764	A1			G06F-017/60	
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AU 200239400	A			G07B-017/04	Based on patent WO 200245028
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Abstract (Basic): WO 200245028 A2

NOVELTY - A corroborative digital token is generated from **payment** information (12), and a base image (22) is modulated with a graphical encoding of the corroborative digital token to produce a **payment** indicium (14). The **payment** indicium containing embedded **payment** information is rendered on a printing surface with a printing characteristic that degrades with photographic reproductions.

USE - For e.g. encoding mail pieces with postal charges.

ADVANTAGE - Enable users to customize the appearance of the **payment** indicium and to accommodate a wide variety of validation processing environments, while providing a substantial defense against fraudulent photocopy attack.

DESCRIPTION OF DRAWING(S) - The drawing shows a flow diagram of the method.

**Payment** information (12)

**Payment** indicium (14)

Base image (22)

pp; 19 DwgNo 1/6

Title Terms: GENERATE; FRAUD; RESISTANCE; GRAPHICAL; **PAY** ; INDICIA;  
FRANKING; MAIL; PIECE; POSTAL; CHARGE; MANNER; SUBSTANTIAL; FRAUD;  
PHOTOCOPY; ATTACK

Derwent Class: T05

International Patent Class (Main): G06F-017/60; G07B-017/04

File Segment: EPI

17/5/1 (Item 1 from file: 347)  
DIALOG(R)File 347:JAPIO  
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07403162 \*\*Image available\*\*  
DIGITAL CAMERA SUITABLE FOR **IMAGE** INPUT IN VIDEO CONFERENCE SYSTEM

PUB. NO.: 2002-271667 [JP 2002271667 A]  
PUBLISHED: September 20, 2002 (20020920)  
INVENTOR(s): KITAJIMA TATSUTOSHI  
APPLICANT(s): RICOH CO LTD  
APPL. NO.: 2001-062470 [JP 20011062470]  
FILED: March 06, 2001 (20010306)  
INTL CLASS: H04N-005/225 ; H04N-005/265 ; H04N-005/91 ; H04N-005/765  
; H04N-005/92 ; H04N-005/93 ; H04N-007/08 ; H04N-007/081  
; H04N-007/15 ; H04N-101:00

#### ABSTRACT

PROBLEM TO BE SOLVED: To provide a digital camera that can **photograph** a moving **image** and a static **image**, store the static **image** and output the moving **image** and the static **image** in a form proper to a video conference system.

SOLUTION: The digital camera has normal functions for obtaining a moving **image** by consecutive shots, **photographing** a static **image** through release of a shutter and store the **pictures** into an **image** memory, and further has other means such as a compression/multiplexing **section** that compresses each frame of the moving **image** in a prescribed operating mode to provide compressed moving **image** data, a communication interface that provides an output of the compressed moving **image** externally in a proper format, and an **image** selection means with which a user selects an **image**. When a user selects an **image**, the compression/multiplexing **section** outputs the selected **image** in place of the compressed moving **image** data. The selected **image** is not compressed or compressed at a compression rate lower in general than that of the moving **image**. Compression **coding** and pixel interleaving are used for compressing the moving **image**. **Gray scaling** or binary processing is employed for compressing the selected **image**, and the **image** is selected by the operation of a release button during **photographing** a moving **image** or by selecting a static **image** stored in the **image** memory or an external memory, such as a memory card.

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17/5/2 (Item 2 from file: 347)  
DIALOG(R)File 347:JAPIO  
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07209112 \*\*Image available\*\*  
**IMAGE** READER, MEDIUM STORING ITS CONTROL PROCEDURE AND DATA STRUCTURE FOR TRANSMITTING COMPUTER PROGRAM SIGNAL INCLUDING CONTROL PROCEDURE WHILE **ENCODING**

PUB. NO.: 2002-077544 [JP 2002077544 A]  
PUBLISHED: March 15, 2002 (20020315)  
INVENTOR(s): HOKOI ITSUHITO  
APPLICANT(s): NIKON CORP  
APPL. NO.: 2000-257501 [JP 2000257501]  
FILED: August 28, 2000 (20000828)

INTL CLASS: H04N-001/19 ; G03B-027/50; G03B-027/54; G06T-001/00;  
H04N-001/028

ABSTRACT

PROBLEM TO BE SOLVED: To provide an **image** reader in which a high quality **image** signal can be obtained even if an ineffective pattern, such as the base of a negative film or a bright spot in the **image** of a positive film, exists in a read **area**, a medium storing a control procedure of the **image** reader and a data structure for transmitting a computer program signal including the control procedure of the **image** reader while **encoding**.

SOLUTION: Using a light receiving element having an overflow drain mechanism and based on the brightness information in the read **area**, exposure conditions are set such that the exposure quantity at a brightest spot by a reading light passed through or reflected on the brightest spot of an effective pattern to be represented by **gray scale** be equal to or close to the quantized maximum exposure quantity of the light receiving element. The effective pattern can be represented over the entire or substantially entire **region** of the dynamic range of the light receiving element and oversaturation due to an ineffective pattern can be suppressed by the overflow drain mechanism.

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17/5/3 (Item 3 from file: 347)

DIALOG(R)File 347:JAPIO

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06738497 \*\*Image available\*\*

**IMAGE** PROCESSOR

PUB. NO.: 2000-324346 [JP 2000324346 A]  
PUBLISHED: November 24, 2000 (20001124)  
INVENTOR(s): NAMIGATA TAKESHI  
APPLICANT(s): CANON INC  
APPL. NO.: 11-131656 [JP 99131656]  
FILED: May 12, 1999 (19990512)  
INTL CLASS: H04N-001/46 ; G06T-001/00

ABSTRACT

PROBLEM TO BE SOLVED: To obtain an **image** processor that solves a problem of a mixed pattern efficiently through one scanning in an **image** processor that conducts conversion to express a color **image** in a black/white pattern.

SOLUTION: The **image** processor is provided with an **image** read means 101 that converts a color original into an electric **image** signal, a color information extract means 102 that calculates a quantity to express a saturation for each pixel and a quantity to express a hue from a read **image**, a **gray scale image** generating means 106 that generates a **gray scale image** signal for each pixel from the read **image**, an achromatic color discrimination means 104 that applies threshold value processing to the quantity to express the saturation so as to binarize it, a color **code** generating means 103 that applies threshold value processing to the quantity to express the hue into at least n-sets (2 or over) of **areas** so as to conduct n-value processing, and a pattern selection means 105 that outputs a **gray scale image** signal to a pixel discriminated to be achromatic or outputs a graphic pattern of black/white binary value corresponding to the n-value processing **area** with respect to other pixel.

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17/5/4 (Item 4 from file: 347)  
DIALOG(R)File 347:JAPIO  
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06646764 \*\*Image available\*\*  
DEVICE AND METHOD FOR PRINTING AND RECORDING MEDIUM

PUB. NO.: 2000-232580 [JP 2000232580 A]  
PUBLISHED: August 22, 2000 (20000822)  
INVENTOR(s): IIIZUMI TOMOO  
APPLICANT(s): CANON INC  
APPL. NO.: 11-032972 [JP 9932972]  
FILED: February 10, 1999 (19990210)  
INTL CLASS: H04N-001/405 ; B41J-002/52; B41J-005/30; G06T-005/00

ABSTRACT

PROBLEM TO BE SOLVED: To provide a device which prints the **image** data equivalent to plural pages on a singl printing medium and also can deal with even a large quantity of **image** data to be processed by means of a memory of small storage capacity.

SOLUTION: An **image** processing condition desired for **image** data is previously stored in a ROM and then designated to every original page of the **image** data. Meanwhile, the **image** processing is carried out by the dither method and by means of an intermediate **code** . The differences between printing positions and corresponding dither data are held on an offset table 7 is via a print **area** that is designated by the intermediate **code** . Then the dither table data based on the data obtained from the intermediate **code** and on the value of the table 7 and received from a RAM 6 are compared with the input data by a comparator 8 and converted into the data of a low **gray scale** .

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17/5/5 (Item 5 from file: 347)  
DIALOG(R)File 347:JAPIO  
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02884449 \*\*Image available\*\*  
PRINTED MATTER CHECKUP METHOD

PUB. NO.: 01-182049 [JP 1182049 A]  
PUBLISHED: July 19, 1989 (19890719)  
INVENTOR(s): SHIMADA HITOAKI  
YAMASHITA HIROSHI  
MASUDA TOSHIAKI  
APPLICANT(s): MITSUBISHI HEAVY IND LTD [000620] (A Japanese Company or Corporation), JP (Japan)  
TOPPAN PRINTING CO LTD [000319] (A Japanese Company or Corporation), JP (Japan)  
APPL. NO.: 63-006018 [JP 886018]  
FILED: January 14, 1988 (19880114)  
INTL CLASS: [4] B41F-033/04; G06F-015/62  
JAPIO CLASS: 29.4 (PRECISION INSTRUMENTS -- Business Machines); 45.4 (INFORMATION PROCESSING -- Computer Applications)  
JOURNAL: Section: M, Section No. 882, Vol. 13, No. 465, Pg. 72,

October 20, 1989 (19891020)

ABSTRACT

PURPOSE: To simplify the operation by an operator by automatically recognizing the size of printing paper to be checked, setting a checking **area** according to the size and starting the checkup.

CONSTITUTION: A scan start line (a) is preset by means of a timing pulse of a rotary **encoder** so that paper feed is started. Consequently a paper catching side can recognize the paper feed. A detection signal differs considerably in terms of gradation detection; that is, approximately 20 gradations of **gray scale** on the surface of an impression cylinder 3 and approximately 200 gradations on the blank part 4 of printed matter. Therefore, each single line of data in a scan line is taken out of an **image** memory, and a boundary between the impression cylinder and the blank part is detected from both the start side of the single line and the end side. While the right and left ends of each line are detected, a signal from the blank part ceases to be detected, and subsequently, pixels on the right and left ends can no longer be determined. This line can be regarded as the end of the feed-in side.

17/5/6 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014571861 \*\*Image available\*\*

WPI Acc No: 2002-392565/200242

XRFX Acc No: N02-307694

Flat panel display e.g. LCD for television, generates column and scan signals by applying control signal in RSDS format with **gray scale** and **gate voltages** to data and scan driver integrated circuits, respectively

Patent Assignee: SAMSUNG ELECTRONICS CO LTD (SMSU ); KIM H (KIMH-I)

Inventor: KIM H S; KIM H

Number of Countries: 004 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020011999	A1	20020131	US 2001912500	A	20010726	200242 B
JP 2002062840	A	20020228	JP 2001108218	A	20010406	200242
KR 2002009867	A	20020202	KR 200043406	A	20000727	200254
KR 339021	B	20020603	KR 200043406	A	20000727	200277
TW 494384	A	20020711	TW 2001105450	A	20010308	200328

Priority Applications (No Type Date): KR 200043406 A 20000727

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020011999	A1		9	G09G-005/00	
JP 2002062840	A		8	G09G-003/20	
KR 2002009867	A			G09G-003/36	
KR 339021	B			G09G-003/36	Previous Publ. patent KR 2002009867
TW 494384	A			G09G-005/00	

Abstract (Basic): US 20020011999 A1

NOVELTY - A processor (34) decides timing format of an **image** data and generates a control signal in RSDS format. A power supply unit (22) converts constant voltage from output unit (32) into specific voltage using which **gray scale** and gate on/off voltages are generated. Column and scan signals are generated by applying **encoded** data and control signal with **gray scale** and gate voltages to data and scan integrated circuits (18,16), respectively.

USE - E.g. liquid crystal display, plasma display used in personal computer and television.

ADVANTAGE - Elements for **encoding** and decoding data and control signal need not be mounted on the control board and hence mounting **area** of the board is minimized and the circuit structure for the board is simplified. The **image** data and control signal are directly transmitted to driver integrated circuits and hence number of transmission lines decrease, thereby providing low power operation, high-speed data transmission and prevention of EMI problems.

DESCRIPTION OF DRAWING(S) - The figure shows the liquid crystal display.

Scan and data integrated circuits (16,18)

Control board (20)

Power supply unit (22)

Output unit (32)

**Image** signal processor (34)

pp; 9 DwgNo 1/3

Title Terms: FLAT; PANEL; DISPLAY; LCD; TELEVISION; GENERATE; COLUMN; SCAN; SIGNAL; APPLY; CONTROL; SIGNAL; FORMAT; GREY; SCALE; GATE; VOLTAGE; DATA; SCAN; DRIVE; INTEGRATE; CIRCUIT; RESPECTIVE

Derwent Class: P85; T01; U14

International Patent Class (Main): G09G-003/20; G09G-003/36; G09G-005/00

International Patent Class (Additional): G02F-001/133; **H04N-005/66**

File Segment: EPI; EngPI

**17/5/7 (Item 2 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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013593099 \*\*Image available\*\*

WPI Acc No: 2001-077306/200109

XRPX Acc No: N01-059187

**Image processor for copier, has selector to output graphic pattern of monochrome binary corresponding to area formed into n-values**

Patent Assignee: CANON KK (CANO )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000324346	A	20001124	JP 99131656	A	19990512	200109 B

Priority Applications (No Type Date): JP 99131656 A 19990512

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2000324346	A		6	H04N-001/46	

Abstract (Basic): JP 2000324346 A

NOVELTY - A generator (106) generates **gray scale image** signal for every pixel, based on **image** read by reader (101). Based on threshold value, achromatic color discriminator (104) digitizes the quantity expressing chroma by processing and color **code** generator (103) generates **areas** of n-value using color phase. Based on **gray scale image** signal and n-value, selector (105) outputs graphic pattern of monochrome binary.

DETAILED DESCRIPTION - The **image** reader (101) reads the **image** signal that is converted from color original document into electric **image** signal. A color information extractor (102) computes quantity expressing chroma and color phase for every pixel based on the read **image**.

USE - In e.g. compound machine, copier, facsimile, printer.



ADVANTAGE - The instability in color discrimination of chromatic color is reduced, by patternizing the color **area** of color **image** to output monochrome, thus mixture of pattern is eliminated. Raises the discrimination accuracy of black thin line which should be distinguished from achromatic color.

DESCRIPTION OF DRAWING(S) - The figure shows schematic block diagram of **image** processor.

Reader (101)  
 Color information extractor (102)  
 Color **code** generator (103)  
 Achromatic color discriminator (104)  
 Selector (105)  
 Generator (106)  
 pp; 6 DwgNo 1/9

Title Terms: **IMAGE** ; PROCESSOR; COPY; SELECT; OUTPUT; GRAPHIC; PATTERN;  
 MONOCHROME; BINARY; CORRESPOND; **AREA** ; FORMING; N; VALUE  
 Derwent Class: T01  
 International Patent Class (Main): **H04N-001/46**  
 International Patent Class (Additional): G06T-001/00  
 File Segment: EPI

**17/5/8 (Item 3 from file: 350)**

DIALOG(R)File 350:Derwent WPIX  
 (c) 2003 Thomson Derwent. All rts. reserv.

013258998 \*\*Image available\*\*  
 WPI Acc No: 2000-430881/200037  
 XRPX Acc No: N00-321580

**Archival information storage system controls intensity and position of laser beam on writeable layer, based on electronic files received by scanner to write visual record into writeable layer**

Patent Assignee: STORAGE TECHNOLOGY CORP (STOS )  
 Inventor: FRARY J M; LEONHARDT M L; SMITH A W  
 Number of Countries: 021 Number of Patents: 006  
 Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200028726	A1	20000518	WO 99US26231	A	19991104	200037 B
EP 1110371	A1	20010627	EP 99956944	A	19991104	200137
			WO 99US26231	A	19991104	
US 6442296	B1	20020827	US 98187440	A	19981106	200259
JP 2002529886	W	20020910	WO 99US26231	A	19991104	200274
			JP 2000581802	A	19991104	
EP 1110371	B1	20030326	EP 99956944	A	19991104	200323
			WO 99US26231	A	19991104	
DE 69906319	E	20030430	DE 606319	A	19991104	200336
			EP 99956944	A	19991104	
			WO 99US26231	A	19991104	

Priority Applications (No Type Date): US 98187440 A 19981106

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200028726	A1	E	32	H04N-001/00	
					Designated States (National): JP
					Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
EP 1110371	A1	E		H04N-001/00	Based on patent WO 200028726
					Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
US 6442296	B1			H04N-001/00	

JP 2002529886 W 30 G11B-007/004 Based on patent WO 200028726  
 EP 1110371 B1 E H04N-001/00 Based on patent WO 200028726  
 Designated States (Regional): DE FR  
 DE 69906319 E H04N-001/00 Based on patent EP 1110371  
 Based on patent WO 200028726

Abstract (Basic): WO 200028726 A1

NOVELTY - A scanner emits variable intensity laser beam to be incident on the writeable layer of an optical recording tape (2). The scanner receives information in electronic files and controls intensity of laser beam and relative position of the beam on the writeable layer, based on the electronic files, to write a visual record (10) into writeable layer at a de-magnification factor for each document.

DETAILED DESCRIPTION - The scanner writes a visual table of contents entry in table of contents area and visual header (12) located adjacent visual record. The scanner converts the **gray scale** information within electronic files into **half tone** information and separates color information within files into several color components by writing one visual record for each color component. An INDEPENDENT CLAIM is also included for method of storing document.

USE - For storing document as information in electronic files, in human and machine readable format.

ADVANTAGE - Since the optical recording medium is direct laser writeable, additional documents can be added and retrieved at any time. Information contained in the electronic files is processed prior to writing to accommodate shades of gray, color and different **resolutions** of the documents. The documents can be stored in both digitally **encoded** and human readable form on the same physical media.

DESCRIPTION OF DRAWING(S) - The figure shows the illustration of data written on an optical recording tape with visual and digital records in same track.

Optical recording tape (2)

Visual record (10)

Visual header (12)

pp; 32 DwgNo 1/5

Title Terms: ARCHIVE; INFORMATION; STORAGE; SYSTEM; CONTROL; INTENSITY; POSITION; LASER; BEAM; LAYER; BASED; ELECTRONIC; FILE; RECEIVE; SCAN; WRITING; VISUAL; RECORD; LAYER

Derwent Class: T03; W02; W04

International Patent Class (Main): G11B-007/004; **H04N-001/00**

International Patent Class (Additional): G06K-007/10; G06K-019/08

File Segment: EPI

17/5/9 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013111515 \*\*Image available\*\*

WPI Acc No: 2000-283386/200024

XRPX Acc No: N00-213317

**Chroma keying method for digital video processing**

Patent Assignee: GEN INSTR CORP (GENN ); MOTOROLA INC (MOTI )

Inventor: CHEN X; PANUSOPONE K

Number of Countries: 087 Number of Patents: 009

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200016562	A1	20000323	WO 99US18310	A	19990823	200024 B
AU 9955571	A	20000403	AU 9955571	A	19990823	200034
US 6122014	A	20000919	US 98156790	A	19980917	200048
EP 1114556	A1	20010711	EP 99942124	A	19990823	200140

			WO 99US18310	A	19990823	
KR 2001075163	A	20010809	KR 2001703427	A	20010316	200211
CN 1318258	A	20011017	CN 99810987	A	19990823	200213
JP 2002525928	W	20020813	WO 99US18310	A	19990823	200267
			JP 2000570976	A	19990823	
AU 755247	B	20021205	AU 9955571	A	19990823	200305
MX 2001002776	A1	20020201	WO 99US18310	A	19990823	200362
			MX 20012776	A	20010316	

Priority Applications (No Type Date): US 98156790 A 19980917

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200016562	A1	E	63	H04N-007/26	
Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN					
CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ					
LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK					
SL TJ TM TR TT UA UG UZ VN YU ZA ZW					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR					
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
AU 9955571	A				Based on patent WO 200016562
US 6122014	A			H04N-009/74	
EP 1114556	A1	E		H04N-007/26	Based on patent WO 200016562
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI					
LU MC NL PT SE					
KR 2001075163	A			H04N-007/26	
CN 1318258	A			H04N-007/26	
JP 2002525928	W		58	H04N-009/75	Based on patent WO 200016562
AU 755247	B			H04N-007/26	Previous Publ. patent AU 9955571
					Based on patent WO 200016562
MX 2001002776	A1			H04N-007/26	Based on patent WO 200016562

Abstract (Basic): WO 200016562 A1

NOVELTY - Pre- **encoded** key color data (K) of primary **image region** is cross-faded with that of secondary **image region** based on its alpha plane information. The output is **encoded**, based on primary quantization parameter (QP). The data (K) is coded and decoded to obtain decoded data. Based on quantization error (Q) of the decoded data and the parameter (QP) an optimum keying threshold (T) is determined.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for chroma keying apparatus.

USE - For digital video processing.

ADVANTAGE - Provides an optimized threshold for switching between background and foreground objects in a video **picture**. The chroma keying system is compatible with existing video standards such as MPEG-2, MPEG-4 and H.263+ and other frame based video compression standards. Avoids need to carry an explicit alpha plane, or use alpha plane **coding**. Provides smooth transition at the boundary between objects without the need for special switching, such as general **gray scale** shape **coding** tool or post-processing using feathering filters. Range data of quantization errors and corresponding quantization parameters can be immediately accessed as the soft keyed output is **encoded** according to the specific primary quantization parameter.

DESCRIPTION OF DRAWING(S) - The figure illustrates **encoding** and decoding system.

Pre- **encoded** key color data (K)

Primary quantization parameter (QP)

Quantization error (Q)

Optimum keying threshold (T)

pp; 63 DwgNo 6b/10

Title Terms: CHROMA; KEY; METHOD; DIGITAL; VIDEO; PROCESS  
 Derwent Class: T01; W02; W04  
 International Patent Class (Main): H04N-007/26 ; H04N-009/74 ;  
 H04N-009/75  
 International Patent Class (Additional): H04N-007/24 ; H04N-011/04  
 File Segment: EPI

17/5/10 (Item 5 from file: 350)  
 DIALOG(R)File 350:Derwent WPIX  
 (c) 2003 Thomson Derwent. All rts. reserv.

013084556 \*\*Image available\*\*  
 WPI Acc No: 2000-256428/200022  
 XRPX Acc No: N00-190686

**Two-dimensional encoding and decoding of a message within an image in which the message is not decoded by visual inspection, such as a message embedded in a pattern of pixels**

Patent Assignee: CHANG K H (CHAN-I); CHANG K H P (CHAN-I)

Inventor: YIP P S; CHANG K H P

Number of Countries: 020 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200011599	A1	20000302	WO 99US12376	A	19990717	200022 B
US 6256398	B1	20010703	US 98138591	A	19980822	200140
DE 19983484	T	20010726	DE 1083484	A	19990717	200143
			WO 99US12376	A	19990717	
US 20010017932	A1	20010830	US 98138591	A	19980822	200151
			US 2001844882	A	20010428	
JP 2002523944	W	20020730	WO 99US12376	A	19990717	200264
			JP 2000566783	A	19990717	
US 20020150276	A1	20021017	US 98138591	A	19980822	200270
			US 2001844882	A	20010428	
			US 200139349	A	20011229	
US 6577748	B2	20030610	US 98138591	A	19980822	200340
			US 2001844882	A	20010428	

Priority Applications (No Type Date): US 98138591 A 19980822; US 2001844882 A 20010428; US 200139349 A 20011229

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 200011599	A1	E	72	G06K-019/06	
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Designated States (National): DE JP

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

US 6256398	B1			G06K-009/00	
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DE 19983484	T			G06K-019/06	
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Based on patent WO 200011599

US 20010017932	A1			G06K-009/00	
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Cont of application US 98138591

Cont of patent US 6256398

JP 2002523944	W		84	H04N-001/387	
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Based on patent WO 200011599

US 20020150276	A1			G06K-009/00	
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Cont of application US 98138591

Cont of application US 2001844882

Cont of patent US 6256398

US 6577748	B2			G06K-009/00	
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Cont of application US 98138591

Abstract (Basic): WO 200011599 A1

NOVELTY - A block (100) of cells (112) of pixels is divided into two-dimensional groups called tiles (122) and the encoded information in an image is represented by symbols or glyphs, represented by pixels (110) in a black and white embodiment. The pixels are divided into cells (112) to convey logical information and a square cell

can be a sync or data **cell** with the pixel values ranging from a maximum to a minimum. The binary value of a glyph pixel is determined by its contrast to the background pixels.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for a device for loading a web-site address into a web browser, for a method of loading a uniform resource locator address into a browser, for an optically readable two-dimensional **coding** system and for methods of embedding a message in an initial **image** and for representing binary values of bits with a pixel display.

USE - **Encoding** a message in an **image** which is not readable by visual inspection.

ADVANTAGE - **Encoding** and decoding messages not having obtrusive features.

DESCRIPTION OF DRAWING(S) - The drawing shows an embodiment of a **gray - scale** representation of a block of **cells** of pixels

Block (100)  
**Cells** (112)  
Tiles (122)  
Pixels (110)  
pp; 72 DwgNo 1/21

Title Terms: TWO; DIMENSION; **ENCODE** ; DECODE; MESSAGE; **IMAGE** ; MESSAGE; DECODE; VISUAL; INSPECT; MESSAGE; EMBED; PATTERN; PIXEL

Derwent Class: P75; T01; T04

International Patent Class (Main): G06K-009/00; G06K-019/06; **H04N-001/387**

International Patent Class (Additional): B41J-005/30; G06K-007/00;

G06K-019/00; G06T-001/00; G06T-007/00; **H04N-001/41** ; **H04N-007/08** ;

**H04N-007/081**

File Segment: EPI; EngPI

**17/5/11 (Item 6 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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012783183 \*\*Image available\*\*

WPI Acc No: 1999-589409/199950

XRPX Acc No: N99-434581

**Dot rendering device for gray level printing apparatus**

Patent Assignee: EASTMAN KODAK CO (EAST )

Inventor: TAI H

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5956157	A	19990921	US 94353644	A	19941208	199950 B

Priority Applications (No Type Date): US 94353644 A 19941208

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5956157	A	32	H04N-001/40	

Abstract (Basic): US 5956157 A

NOVELTY - Scanner (120) provides signals representing gray level unrendered **pixel** values of an image. The unrendered **pixel** values are compared by rendering unit (160) with corresponding threshold values, which are associated with **half tone** threshold mask sets. Rendering unit includes blending unit that generates rendering **pixel** values for certain pixels of image in response to threshold values.

DETAILED DESCRIPTION - The rendering unit generates another set of signals to perform gray level reproduction of the image. An INDEPENDENT CLAIM is also included for the controller for receiving signals

representing digitized image.

USE - For **encoding** pictorial imagery for printing or display. For rendering a dot in a display or printing apparatus that uses gray level display or printing.

ADVANTAGE - Compensates for non-linearity of tone response for **gray scale** marking engine. Provides for final tone adjustment on image without re-scanning, re-rendering or re-transmitting image.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the level printing apparatus.

Scanner (120)

Rendering unit (160)

pp; 32 DwgNo 6/21

Title Terms: DOT; RENDER; DEVICE; GRAY; LEVEL; PRINT; APPARATUS

Derwent Class: T01; W02

International Patent Class (Main): **H04N-001/40**

File Segment: EPI

**17/5/12 (Item 7 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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010693273 \*\*Image available\*\*

WPI Acc No: 1996-190228/199620

Related WPI Acc No: 1996-051664

XRPX Acc No: N96-159028

**Conversion of continuous tone image - identifying series of pixels corresp. to linear segment of image , processing identified pixels in sequence corresp. to movement along segment in preset direction converting pixels into binary raster values**

Patent Assignee: SEIKO EPSON CORP (SHIH )

Inventor: SHU J S

Number of Countries: 005 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 707412	A2	19960417	EP 95307167	A	19951011	199620 B
JP 8228287	A	19960903	JP 95256633	A	19951003	199645
US 5592592	A	19970107	US 94269708	A	19940701	199708
			US 94320537	A	19941011	
EP 707412	A3	19970618	EP 95307167	A	19951011	199737
EP 707412	B1	20020731	EP 95307167	A	19951011	200257
DE 69527587	E	20020905	DE 627587	A	19951011	200266
			EP 95307167	A	19951011	

Priority Applications (No Type Date): US 94320537 A 19941011; US 94269708 A 19940701

Cited Patents: 1.Jnl.Ref; EP 201674; EP 38515; EP 405052; US 4163605; US 4370667; US 4955065; US 5087981; WO 8807306

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 707412	A2	E	39	H04N-001/405	
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Designated States (Regional): DE FR GB

JP 8228287	A		29	H04N-001/403	
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US 5592592	A		34	G06K-015/00	CIP of application US 94269708
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EP 707412	A3			H04N-001/405	
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EP 707412	B1	E		H04N-001/405	
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Designated States (Regional): DE FR GB

DE 69527587	E			H04N-001/405	Based on patent EP 707412
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Abstract (Basic): EP 707412 A

The method involves converting a continuous tone **image** represented as an array of electronically **encoded**  $n$  times  $m$  pixels comprises  $n$  row of  $m$  pixels, each specifying a **gray - scale** value, into a binary raster suitable for electronic printing. A series of pixels are identified corresp. to a linear **segment** of the **image**. The identified pixels comprises either odd ones of  $m$  pixels on corresp. odd ones of  $n$  rows and even ones of  $m$  pixels on corresp. even ones of the  $n$  rows.

Or even ones of  $m$  pixels on corresp. odd ones on  $n$  rows of pixels and odd ones of  $m$  pixels on corresp. even ones on  $n$  rows. The identified pixels are processed in a sequence corresp. to movement along the **segment** in a predetermined direction to convert the pixels into binary raster values. The identification and processing is repeated until the **image** has been fully processed.

USE/ADVANTAGE - Digital **image** processing. Reduces amount of ink and processing time required for printing.

Dwg.1/22

Title Terms: CONVERT; CONTINUOUS; TONE; **IMAGE** ; IDENTIFY; SERIES; PIXEL; CORRESPOND; LINEAR; **SEGMENT** ; **IMAGE** ; PROCESS; IDENTIFY; PIXEL; SEQUENCE; CORRESPOND; MOVEMENT; **SEGMENT** ; PRESET; DIRECTION; CONVERT; PIXEL; BINARY; RASTER; VALUE

Derwent Class: P75; T01; W02

International Patent Class (Main): G06K-015/00; **H04N-001/403** ; **H04N-001/405**

International Patent Class (Additional): B41J-002/175; B41J-002/205; B41J-002/485; **G06F-003/12** ; G06T-005/00; **H04N-001/41**

File Segment: EPI; EngPI

17/5/13 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010554711 \*\*Image available\*\*

WPI Acc No: 1996-051664/199606

Related WPI Acc No: 1996-190228

XRPX Acc No: N96-043303

**Method of converting continuous tone image - represented as array of electronically encoded pixels, each specifying gray scale value into binary values suitable for electronic printing and identifies series of pixels (500) corresp. to linear segment of image**

Patent Assignee: SEIKO EPSON CORP (SHIH )

Inventor: SHU J S

Number of Countries: 005 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 690612	A2	19960103	EP 95304610	A	19950630	199606 B
JP 8084253	A	19960326	JP 95156535	A	19950622	199622
EP 690612	A3	19970618	EP 95304610	A	19950630	199737
US 5692109	A	19971125	US 94269708	A	19940701	199802
EP 690612	B1	20010822	EP 95304610	A	19950630	200149
DE 69522277	E	20010927	DE 622277	A	19950630	200164
			EP 95304610	A	19950630	
JP 3304029	B2	20020722	JP 95156535	A	19950622	200254

Priority Applications (No Type Date): US 94269708 A 19940701

Cited Patents: 1.Jnl.Ref; US 4955065; WO 8807306

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 690612	A2	E	14	H04N-001/405	

Designated States (Regional): DE FR GB  
 JP 8084253 A 10 H04N-001/403  
 EP 690612 A3 H04N-001/405  
 US 5692109 A 12 G06K-015/00  
 EP 690612 B1 E H04N-001/405  
 Designated States (Regional): DE FR GB  
 DE 69522277 E H04N-001/405 Based on patent EP 690612  
 JP 3304029 B2 9 H04N-001/405 Previous Publ. patent JP 8084253

Abstract (Basic): EP 690612 A

The method converts a continuous tone **image** represented as an array of electronically **encoded** pixels, each specifying a **gray scale** value into binary values suitable for electronic printing. The method identifies a series of pixels (500) corresp. to a linear **segment** of the **image**.

The identified pixels are processed in a sequence corresp. to movement along the **segment** in a predetermined direction to convert the pixels into binary values. The identification and processing operations are repeated until the **image** has been fully processed. The predetermined direction of the processing sequence is based on information from one previous processing sequence.

USE - Used for minimising artifacts, worms, in printed output of digital printing apparatuses caused by error diffusion halftoning.

ADVANTAGE - Improves quality of **halftone image** produced by binary printer, and provides method which can be implemented relatively easily either in specialised hardware or in existing printer drivers.

Dwg.5/5

Title Terms: METHOD; CONVERT; CONTINUOUS; TONE; **IMAGE** ; REPRESENT; ARRAY; ELECTRONIC; **ENCODE** ; **PIXEL** ; SPECIFIED; GREY; SCALE; VALUE; BINARY; VALUE; SUIT; ELECTRONIC; PRINT; IDENTIFY; SERIES; **PIXEL** ; CORRESPOND; LINEAR; **SEGMENT** ; **IMAGE**

Derwent Class: P75; T01; W02

International Patent Class (Main): G06K-015/00; **H04N-001/403** ; **H04N-001/405**

International Patent Class (Additional): B41J-002/52; G06T-005/00; **H04N-001/40**

File Segment: EPI; EngPI

17/5/14 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010542002 \*\*Image available\*\*

WPI Acc No: 1996-038956/199604

XRPX Acc No: N96-032844

**Model-based signal array generation method for halftone images - reading gray - scale coded images and modifying to produce images which, when applied to two-level printer create enhanced quality halftone images**

Patent Assignee: AT & T CORP (AMTT )

Inventor: NEUHOFF D L; PAPPAS T N

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5463472	A	19951031	US 91659753	A	19910222	199604 B
			US 9346513	A	19930412	
			US 95408454	A	19950322	

Priority Applications (No Type Date): US 91659753 A 19910222; US 9346513 A



19930412; US 95408454 A 19950322

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5463472	A		29	H04N-001/387	Cont of application US 91659753 Cont of application US 9346513

Abstract (Basic): US 5463472 A

The method involve responding to applied binary signals by forming past signals predictive of **halftone image regions** formed by a display device (9) to which the signals are to be fed. These past signals are formed based on a model (140) of the display device.

Each of a number of input signals is modified in response to one or more past error signals. The past error signals are derived to reflect differences between past modified input signals (132) and **halftone image region** predictive past signals. A binary signal is formed in response to each of the modified input signals.

ADVANTAGE - Exploits phenomena previously regarded as destructive. Increases apparent **gray - scale** and spatial **resolution**. Generates high number of gray levels.

Dwg.13/13

Title Terms: MODEL; BASED; SIGNAL; ARRAY; GENERATE; METHOD; **HALFTONE** ; **IMAGE** ; READ; GRAY; SCALE; **CODE** ; **IMAGE** ; MODIFIED; PRODUCE; **IMAGE** ; APPLY; TWO; LEVEL; PRINT; ENHANCE; QUALITY; **HALFTONE** ; **IMAGE**

Derwent Class: T01; T04; W02

International Patent Class (Main): **H04N-001/387**

International Patent Class (Additional): **H04N-001/405**

File Segment: EPI

17/5/15 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010515754 \*\*Image available\*\*

WPI Acc No: 1996-012705/199602

XRPX Acc No: N96-010849

**High-acuity printing system rendering halftoned image data - supplies gray scale input image data and transforms it into multibit value output data, with look-up table providing data with halftone dots in table as continuum from lowest to highest density values**

Patent Assignee: XEROX CORP (XERO )

Inventor: CURRY D N

Number of Countries: 006 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 685960	A2	19951206	EP 95303793	A	19950602	199602 B
JP 7336538	A	19951222	JP 95128208	A	19950526	199609
CA 2147298	A	19951203	CA 2147298	A	19950419	199614
EP 685960	A3	19960124	EP 95303793	A	19950602	199621
US 5537223	A	19960716	US 94252872	A	19940602	199634
CA 2147298	C	19990831	CA 2147298	A	19950419	200002
EP 685960	B1	20000426	EP 95303793	A	19950602	200025
DE 69516456	E	20000531	DE 616456	A	19950602	200033
			EP 95303793	A	19950602	

Priority Applications (No Type Date): US 94252872 A 19940602

Cited Patents: No-SR.Pub; BE 1003657; EP 583776; GB 2157119; US 4499489; US 4985779

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 685960 A2 E 51 H04N-001/405  
 Designated States (Regional): DE FR GB  
 JP 7336538 A 21 H04N-001/405  
 CA 2147298 A H04N-001/40  
 EP 685960 A3 H04N-001/405  
 US 5537223 A 47 G06K-009/00  
 CA 2147298 C E H04N-001/40  
 EP 685960 B1 E H04N-001/405  
 Designated States (Regional): DE FR GB  
 DE 69516456 E H04N-001/405 Based on patent EP 685960

Abstract (Basic): EP 685960 A

The printing system comprises a data source supplying (52) **gray scale** input **image** data. The halftoning circuitry receives the **gray scale** data, and transforms it into multibit value output data. It has a look-up table providing the data with halftone dots (72) arranged in the table as a continuum from a lowest density value to a highest corresp. to the data.

Addressing circuitry provides two sets of address lines defining a screen stored in memory providing x and y address values defining a desired screen angle. The circuitry includes rotation circuitry for modifying x and y address values rotating the dots read out from the table. The multibit value output data is received from the half-toning circuitry, and converts the output data into a form which can be directly used by a writing device for writing the output data onto the recording medium.

ADVANTAGE - Provides half-toning system with transformation or rotation on x- and y-axis co-ordinates of address into addressable table look-up memory. Reallocates memory access inside halftone **cell** to new location for rotating halftone dot for embedding data.

Dwg.2/41

Title Terms: HIGH; ACUITY; PRINT; SYSTEM; RENDER; **IMAGE** ; DATA; SUPPLY; GRAY; SCALE; INPUT; **IMAGE** ; DATA; TRANSFORM; MULTIBIT; VALUE; OUTPUT; DATA; LOOK-UP; TABLE; DATA; HALFTONE; DOT; TABLE; CONTINUE; LOW; HIGH; DENSITY; VALUE

Index Terms/Additional Words: **EMBED DED\_D** ; DATA; **ENCODING**

Derwent Class: P75; P84; T01; T04; W02

International Patent Class (Main): G06K-009/00; **H04N-001/40 ; H04N-001/405**

International Patent Class (Additional): B41J-002/47; B41J-002/52; G03G-015/01; G03G-021/00; **G06F-003/12**

File Segment: EPI; EngPI

17/5/16 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010405525 \*\*Image available\*\*

WPI Acc No: 1995-306839/199540

XRPX Acc No: N95-232984

Encoder -decoder - has quantisation unit that quantises output of wavelength conversion unit that divides band signal finely into low frequency region of two division filters

Patent Assignee: MATSUSHITA GRAPHIC COMMUNICATION SYSTEMS (MATY )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 7203441	A	19950804	JP 93335750	A	19931228	199540 B

Priority Applications (No Type Date): JP 93335750 A 19931228

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes  
JP 7203441 A 14 H04N-007/30

Abstract (Basic): JP 7203441 A

The CODEC has a wavelength conversion (13) unit that divides the band signal finely into a low-frequency **region** of two filters. A quantisation unit (14) quantises the output of the wavelength conversion unit. An entropy **encoding** unit (15) does the entropy **coding** of the output of the quantisation unit.

The number of taps of the two division filter of the low-frequency **region** is lengthened to match that of the number of taps of the two division filter of the high-frequency **region**.

ADVANTAGE - Enables high compression rate of colour and **gray scale** static **image** without generating clarity deterioration e.g. mosquito noise, block distortion. Increases steep band barrier property.

Dwg.1/24

Title Terms: **ENCODE** ; DECODE; QUANTUM; UNIT; QUANTUM; OUTPUT; WAVELENGTH; CONVERT; UNIT; DIVIDE; BAND; SIGNAL; FINE; LOW; FREQUENCY; **REGION** ; TWO; DIVIDE; FILTER

Index Terms/Additional Words: **ENCODE** **ncoder** **-deco**

Derwent Class: T01; U21; W02; W04

International Patent Class (Main): **H04N-007/30**

International Patent Class (Additional): G06T-009/00; H03M-007/40;

**H04N-001/41**

File Segment: EPI

17/5/17 (Item 12 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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010393679 \*\*Image available\*\*

WPI Acc No: 1995-294992/199539

XRPX Acc No: N95-223265

Image **capture device** and bar code reader - has light sensitive device for measuring light from light beam reflected from image to produce signal of varying magnitude representative of image

Patent Assignee: MOTOROLA ISRAEL LTD (MOTI )

Inventor: BARMAN S; GEVA A; ROSENHEIMER A

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2287150	A	19950906	GB 943690	A	19940225	199539 B
DE 19505739	A1	19950831	DE 1005739	A	19950220	199540

Priority Applications (No Type Date): GB 943690 A 19940225

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

GB 2287150 A 12 H04N-001/028

DE 19505739 A1 5 G06K-009/20

Abstract (Basic): GB 2287150 A

The device includes a light source for producing a light beam, a scanning device for scanning the light beam across a scan **area** so as to scan ab **image** to be captured, when positioned in the scan **area**. A light sensitive device is used for measuring light from the light beam reflected from the **image** to produce a signal of varying

magnitude representative of the **image** .

A sampling device is also provide for sampling the magnitude of the signal to provide a series of **image** samples. A sync device is for synchronising the sampling device and the scanning device. The latter includes first and second beam diverting elements for diverting the light beam in first and second orthogonal directions respectively.

USE/ADVANTAGE - For capturing two-dimensional monochrome **image** . Captures **gray scale** data to create complete **image** for capturing e.g. signatures with provision for displaying **image** on display screen.

Dwg.1/2

Title Terms: **IMAGE** ; CAPTURE; DEVICE; BAR; **CODE** ; READ; LIGHT; SENSITIVE; DEVICE; MEASURE; LIGHT; LIGHT; BEAM; REFLECT; **IMAGE** ; PRODUCE; SIGNAL; VARY; MAGNITUDE; REPRESENT; **IMAGE**

Derwent Class: T01; T04

International Patent Class (Main): G06K-009/20; **H04N-001/028**

International Patent Class (Additional): G06K-007/10

File Segment: EPI

**17/5/18 (Item 13 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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010213877 \*\*Image available\*\*

WPI Acc No: 1995-115131/199515

XRPX Acc No: N95-090895

**Image enhancement method for CRTs and laser printers - by applying mask matrices to current matrix determining presence of edge and brightness change with TBAP modified if on edge**

Patent Assignee: DESTINY TECHNOLOGY CORP (DEST-N)

Inventor: CHANG C; HU C; LEE T; LIU L

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5396584	A	19950307	US 92892062	A	19920529	199515 B

Priority Applications (No Type Date): US 92892062 A 19920529

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5396584	A	36	G06F-015/62	

Abstract (Basic): US 5396584 A

The method involves a group of gradient mask matrices being applied to a 'current matrix'. A TBAP is surrounded by neighbouring pixels, to determine if the TBAP is at a location where a change of brightness occurs. From this matrix operation, a conclusion is derived as to the existence of an edge, and the direction of a brightness change. The current matrix and a predetermined number of previously and yet to be evaluated pixels, are then compared to a set of reference bit patterns.

If the result indicates that the TBAP is on an edge of a changing edge **segment** , a corresponding **code** will be generated to modify the TBAP to enhance the smoothness of a **segment** transition. In the case of an electrophotographic or a **gray scale** printing machine, the specific **code** will change either the location or the size of the TBAP. In a monochrome screen display, the specific **code** will change the intensity of the TBAP.

ADVANTAGE - Sensitive edge enhancement.

Dwg.10/20

Title Terms: **IMAGE** ; ENHANCE; METHOD; CRT; LASER; PRINT; APPLY; MASK;  
MATRIX; CURRENT; MATRIX; DETERMINE; PRESENCE; EDGE; BRIGHT; CHANGE;  
MODIFIED; EDGE  
Index Terms/Additional Words: IMAGE; ENHANCE; METHOD  
Derwent Class: T01  
International Patent Class (Main): **G06F-015/62**  
File Segment: EPI

17/5/19 (Item 14 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2003 Thomson Derwent. All rts. reserv.

009925713 \*\*Image available\*\*  
WPI Acc No: 1994-193424/199424  
XRPX Acc No: N94-152260

**Arithmetic operation using processor for image processing - producing  
respective resulting data item indicating valid result of operation on  
component data item**

Patent Assignee: XEROX CORP (XERO )  
Inventor: DAVIES D  
Number of Countries: 004 Number of Patents: 004  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 602888	A1	19940622	EP 93309863	A	19931208	199424 B
US 5408670	A	19950418	US 92993925	A	19921218	199521
EP 602888	B1	19990908	EP 93309863	A	19931208	199941
DE 69326314	E	19991014	DE 626314	A	19931208	199949
			EP 93309863	A	19931208	

Priority Applications (No Type Date): US 92993925 A 19921218  
Cited Patents: 00 39417100; 00 46460100; 486143  
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 602888	A1	E	19	G06F-007/48	
Designated States (Regional): DE FR GB					
US 5408670	A		19	G06F-007/50	
EP 602888	B1	E		G06F-007/48	
Designated States (Regional): DE FR GB					
DE 69326314	E			G06F-007/48	Based on patent EP 602888

Abstract (Basic): EP 602888 A

The processor performs an arithmetic operation in parallel on a composite operand that includes several component data items, each of more than one bit.

The processor is operated so that the arithmetic operation produces a resulting data item for each component, indicating a valid result. The data items are ordered in a sequence, with each pair of adjacent components being separated by at least one buffer bit.

USE/ADVANTAGE - E.g. for document services, such as noise removal, skew correction, data **encoding** , extraction of **segments** for automatic form or control sheet creation, and printer-specific correction and verification, in digital copier, facsimile, photocopier, scanner, printer. Performs grey-scale or colour pixel value processing, searching **image** database, scanning envelopes for addresses, machine vision, pixel counting, grey-scale morphology, grey scale rotation, generating error-diffused **images** , finite difference analysis or simulation of physical phenomena. Avoids invalid result from second component item, caused by arithmetic operation producing inter-component signal from one items. Provides range of alternatives

to ensure that inter-component signals do not invalidate results of arithmetic operation.

Dwg.5/8

Title Terms: ARITHMETIC; OPERATE; PROCESSOR; **IMAGE** ; PROCESS; PRODUCE; RESPECTIVE; RESULT; DATA; ITEM; INDICATE; VALID; RESULT; OPERATE; COMPONENT; DATA; ITEM

Derwent Class: T01

International Patent Class (Main): **G06F-007/48 ; G06F-007/50**

International Patent Class (Additional): **G06F-007/50**

File Segment: EPI

**17/5/20 (Item 15 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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009745670 \*\*Image available\*\*

WPI Acc No: 1994-025521/199403

XRPX Acc No: N94-019868

**Multiple threshold encoding of machine readable code - summing digital signals representing all pixels of cell , whereby resultant sum may have max given by formula**

Patent Assignee: XEROX CORP (XERO )

Inventor: APPEL J J

Number of Countries: 002 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5278400	A	19940111	US 91742965	A	19910819	199403 B
JP 6178116	A	19940624	JP 92205145	A	19920731	199430
JP 3262183	B2	20020304	JP 92205145	A	19920731	200219

Priority Applications (No Type Date): US 91742965 A 19910819

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5278400	A		8	G06K-019/06	
JP 6178116	A		7	H04N-001/40	
JP 3262183	B2		8	H04N-001/40	Previous Publ. patent JP 6178116

Abstract (Basic): US 5278400 A

The method for decoding a **cell** of an **image** having a number of pixels, involves detecting the **gray scale** level at each pixel of the **cell** an converting each of the detected **gray scale** levels to a digital signal representing the detected **gray scale** level of the respective pixel.

Then it involves dividing the max output range of the detected **gray scale** levels into a number of contiguous signal level ranges, and subsequently summing the values of the detected digital signals corresp to the **gray scales** of the pixels of the **cell** , and comparing the sum with a number of threshold levels to determine the level range within which the sum S falls. The determined signal range represents the **coding** of the **cell** , and outputting a signal corresp to the range.

USE/ADVANTAGE - For recording and reading digital data, e.g. codes composed of multiplicity of pixels. Efficient and reliable data recovery while using min **area** of copy.

Dwg.5/5

Title Terms: MULTIPLE; THRESHOLD; **ENCODE** ; MACHINE; READ; **CODE** ; SUM;

DIGITAL; SIGNAL; REPRESENT; PIXEL; **CELL** ; RESULT; SUM; MAXIMUM; FORMULA

Derwent Class: T01; T04

International Patent Class (Main): **G06K-019/06; H04N-001/40**

International Patent Class (Additional): G06K-007/10; G06T-009/00;  
H04N-001/41  
File Segment: EPI

17/5/21 (Item 16 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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009666413 \*\*Image available\*\*  
WPI Acc No: 1993-359964/199345  
Related WPI Acc No: 1993-133914; 1993-144126; 1993-280854; 1993-359963;  
1993-368114; 1994-007874  
XRPX Acc No: N93-277905  
Line screen design for gray scale rendering - controlling gray level  
halftone printer to forms dot along lines in accordance with templates  
corresponding to increasing cell gray levels  
Patent Assignee: NEXPRESS SOLUTIONS LLC (NEXP-N); EASTMAN KODAK CO (EAST )  
Inventor: TAI H  
Number of Countries: 002 Number of Patents: 002  
Patent Family:  

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5258850	A	19931102	US 92895988	A	19920605	199345 B
DE 69331476	E	20020221	DE 631476	A	19930603	200221
			EP 98118918	A	19930603	

Priority Applications (No Type Date): US 92895988 A 19920605; US 92894857 A  
19920605; US 92894858 A 19920605; US 92894859 A 19920605; US 92895554 A  
19920605; US 92895555 A 19920605; US 92895985 A 19920605; US 92895986 A  
19920605

Cited Patents: No-SR.Pub

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5258850	A		15	H04N-001/23	
DE 69331476	E			H04N-001/405	Based on patent EP 892549

Abstract (Basic): US 5258850 A

A method of reproducing an original **image** , involves  
scanning and digitizing an original **image** into pixels of a  
digitized **image** . The pixels of the digitized **image** are arranged  
into **cells** . A gray level **halftone** printer is controlled to form  
dots of at least three gray level dot sizes along lines in accordance  
with at least a first template corresponding to increasing **cell** gray  
levels until a first line structure is stable.

The gray level printer is controlled to form dots of at least three  
gray level dot sizes along lines in accordance with at least a second  
template corresponding to further increasing **cell** gray levels. The  
pixels are grouped into a **cell** having 6\*6 **pixel** locations, and the  
dots are capable of forming to one of fifteen different dot sizes.

USE/ADVANTAGE - In **encoding pictorial** imagery for reproduction  
on display or printing systems. Establishes stable latent **image**  
structure, renders more **gray scales** for **image** , and has process  
characteristics built into it so that appearance of dots are pleasing  
to eye.

Dwg.1/12

Title Terms: LINE; SCREEN; DESIGN; GRAY; SCALE; RENDER; CONTROL; GRAY;  
LEVEL; **HALFTONE** ; PRINT; FORM; DOT; LINE; ACCORD; TEMPLATE; CORRESPOND;  
INCREASE; **CELL** ; GRAY; LEVEL

Derwent Class: T01; T04; W02

International Patent Class (Main): H04N-001/23 ; H04N-001/405

File Segment: EPI

17/5/22 (Item 17 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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009521659 \*\*Image available\*\*  
WPI Acc No: 1993-215200/199327  
XRPX Acc No: N93-165406

**High efficiency coding of two level mixed natural images for image transmission - identifying input signals and digitising before image synthesis and coding processing into final form**

Patent Assignee: KOKUSAI DENSHIN DENWA CO LTD (KOKU )

Inventor: ENDOH T; KATSUNO S

Number of Countries: 003 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 4242796	A1	19930701	DE 4242796	A	19921217	199327 B
JP 5176180	A	19930713	JP 91353952	A	19911219	199332
JP 6022150	A	19940128	JP 92200500	A	19920703	199409
US 5345317	A	19940906	US 92983670	A	19921201	199435
DE 4242796	C2	19970109	DE 4242796	A	19921217	199706

Priority Applications (No Type Date): JP 92200500 A 19920703; JP 91353952 A 19911219

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4242796	A1		27	H04N-001/415	
US 5345317	A		25	H04N-001/415	
DE 4242796	C2		27	H04N-001/415	
JP 5176180	A			H04N-001/413	
JP 6022150	A			H04N-001/413	

Abstract (Basic): DE 4242796 A

A high efficiency **coding** process is used for mono or colour **images** of the type transmitted over a communication line. The **image** signals are received by an input unit (1) generating blocks of data (5) transmitted to a character recognition circuit (9) and a difference **image encoder** (4).

The recognition circuit output connects to a digitiser (2) with output to a synthesiser (3), an **encoder** for two level **images** (5) and an **encoder** (6). The data generated are received by an output circuit.

USE/ADVANTAGE - High efficiency **coding** of mono and colour **images**

Low loss in **image** quality even with **images** having very blunt edges.

Dwg.1/17

Title Terms: HIGH; EFFICIENCY; **CODE** ; TWO; LEVEL; MIX; NATURAL; **IMAGE** ; **IMAGE** ; TRANSMISSION; IDENTIFY; INPUT; SIGNAL; DIGITAL; **IMAGE** ; SYNTHESIS; **CODE** ; PROCESS; FINAL; FORM

Derwent Class: W02

International Patent Class (Main): H04N-001/413 ; H04N-001/415

International Patent Class (Additional): G06F-015/66 ; H04N-001/40 ;

H04N-001/41

File Segment: EPI

17/5/23 (Item 18 from file: 350)



DIALOG(R)File 350:Derwent WPIX  
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009407041      \*\*Image available\*\*  
WPI Acc No: 1993-100551/199312  
Related WPI Acc No: 1994-034631  
XRPX Acc No: N93-076553

**Telefax or colour television image coding system - uses same  
codewords for different numbers or characters to reduce transmission time**

Patent Assignee: DIRR J (DIRR-I)

Inventor: DIRR J

Number of Countries: 003    Number of Patents: 010

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9304572	A2	19930318	WO 92EP2977	A	19921223	199312	B
AU 9332576	A	19930405	AU 9332576	A	19921223	199330	
DE 4237547	A1	19930826	DE 4237547	A	19921106	199335	
DE 4243984	A1	19930826	DE 4243984	A	19921223	199335	
WO 9304572	A3	19930610	WO 92EP2977	A	19921223	199513	
DE 4244835	A1	19950713	DE 4244835	A	19921223	199533	
			DE 4292873	A	19921223		
DE 4244854	A1	19950914	DE 4244835	A	19921223	199542	
			DE 4244854	A	19921223		
DE 4292873	T	19950921	DE 4292873	A	19921223	199543	
			WO 92EP2977	A	19921223		
US 5576835	A	19961119	WO 92EP2977	A	19921212	199701	
			US 93108594	A	19930903		
US 5581368	A	19961203	WO 92EP2977	A	19921223	199703	
			US 93108594	A	19930903		
			US 95487160	A	19950607		

Priority Applications (No Type Date): DE 4237596 A 19921106; DE 4205570 A 19920224

Cited Patents: 4.Jnl.Ref; DE 4025026; WO 9004895

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9304572	A2	G	32	H04L-029/00	
AU 9332576	A			H04N-001/411	Based on patent WO 9304572
DE 4237547	A1		15	H04N-001/419	
DE 4243984	A1		18	H04N-001/419	
DE 4244835	A1		18	H04N-001/41	Div ex application DE 4292873 Div in patent DE 4244854 Div ex patent DE 4292873
DE 4244854	A1		17	H04N-001/41	Div ex application DE 4244835 Div ex patent DE 4244835
DE 4292873	T			H04N-001/419	Based on patent WO 9304572
US 5576835	A		16	H04N-001/41	Based on patent WO 9304572
US 5581368	A			H04N-001/41	Div ex application WO 92EP2977 Div ex application US 93108594
WO 9304572	A3			H04L-029/00	

Abstract (Basic): WO 9304572 A

The **coding** system shortens the transmission time for black and white digital or numeric longitudinal **coding**, by using the same codewords for both black and white and for different numbers or characters, with the input sequence of black and white used as the discrimination criteria. When several successive white lines are coded, the transmission time is reduced further by providing the coded number of white lines before or after the white line codeword.

During gray **coding** the gray stages or binary codewords are sub-divided, with deliberate redundancy where characters occur

successively, with subsequent transmission in the same manner as the white lines. The transmission time is reduced for colour **image** transmission by **code** multiplexing, with the PAM coded information DC biased. The sum alternating current thus varies in phase by up to 90 degrees.

ADVANTAGE - Decreased transmission time with no increase in error rate.

Dwg.22/32

Title Terms: COLOUR; TELEVISION; **IMAGE** ; **CODE** ; SYSTEM; **CODE** ; NUMBER; CHARACTER; REDUCE; TRANSMISSION; TIME

Derwent Class: W02; W04

International Patent Class (Main): H04L-029/00; **H04N-001/41** ;

**H04N-001/411** ; **H04N-001/419**

International Patent Class (Additional): **H04N-001/415** ; **H04N-001/64** ;

**H04N-007/13**

File Segment: EPI

17/5/24 (Item 19 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009247656 \*\*Image available\*\*

WPI Acc No: 1992-375073/199246

XRPX Acc No: N92-285906

**Controller for raster output device, esp. printer - responds to respective clocks to store and output continuous tone images and instructions to multiplexer receiving two constant colours**

Patent Assignee: XEROX CORP (XERO )

Inventor: BUCKLEY R R; RUMPH D E

Number of Countries: 006 Number of Patents: 009

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 512810	A2	19921111	EP 92304069	A	19920506	199246 B
CA 2061057	A	19921108	CA 2061057	A	19920212	199305
US 5225911	A	19930706	US 91696681	A	19910507	199328
JP 5153374	A	19930618	JP 92111913	A	19920430	199329
EP 512810	A3	19930811	EP 92304069	A	19920506	199507
US 35657	E	19971111	US 91696681	A	19910507	199751
			US 95496550	A	19950629	
EP 512810	B1	19971210	EP 92304069	A	19920506	199803
DE 69223443	E	19980122	DE 623443	A	19920506	199809
			EP 92304069	A	19920506	
CA 2061057	C	20000111	CA 2061057	A	19920212	200023

Priority Applications (No Type Date): US 91696681 A 19910507; US 95496550 A 19950629

Cited Patents: No-SR.Pub; EP 344976; GB 1166091; US 4320962

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 512810	A2	E	31	H04N-001/387	
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Designated States (Regional): DE FR GB

CA 2061057	C	E		G09G-005/36	
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US 5225911	A		29	H04N-001/21	
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US 35657	E		32	H04N-001/387	Reissue of patent US 5225911
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EP 512810	B1	E	33	H04N-001/387	
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Designated States (Regional): DE FR GB

DE 69223443	E			H04N-001/387	Based on patent EP 512810
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CA 2061057	A			G09G-005/36	
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JP 5153374	A			H04N-001/387	
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EP 512810      A3      H04N-001/387

Abstract (Basic): EP 512810 A

The controller generates the input to the **raster** output device to produce a **pixel** display comprising a combination of two constant colours and a continuous tone image. Respective clocks generate corresp. pulses for each **raster** and continuous tone **pixel**.

A first memory stores and outputs continuous tone images in memory in response to pulses from the continuous tone clock. An instruction memory stores and outputs instructions in response to pulses from the **pixel** clock. A multiplexer receives the two constant colours and derives an output in response to the output of instruction memory.

USE/ADVANTAGE - Esp. for **gray - scale** printer or binary **raster** printer via **halftone** generator. Allows text and line graphics to be overlaid on scanned image.

Dwg.1A/14

Title Terms: CONTROL; **RASTER**; OUTPUT; DEVICE; PRINT; RESPOND; RESPECTIVE; CLOCK; STORAGE; OUTPUT; CONTINUOUS; TONE; IMAGE; INSTRUCTION; MULTIPLEX; RECEIVE; TWO; CONSTANT; COLOUR

Derwent Class: P75; P85; T04; W02

International Patent Class (Main): G09G-005/36; **H04N-001/21** ;  
**H04N-001/387**

International Patent Class (Additional): B41J-002/52; **G06F-003/12** ;  
**G06F-015/72** ; **H04N-001/23** ; **H04N-001/38** ; **H04N-001/40** ; **H04N-001/46**  
File Segment: EPI; EngPI

**17/5/25      (Item 20 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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009158924      \*\*Image available\*\*

WPI Acc No: 1992-286362/199235

Related WPI Acc No: 1990-336786

XRPX Acc No: N92-219186

Image encoding **method for transmission and storage - adaptively .**  
**quantising each pixel so quantising noise is just below limit of**  
**perception**

Patent Assignee: AT & T CORP (AMTT ); AMERICAN TELEPHONE & TELEGRAPH CO  
(AMTT ); AT & T BELL LAB (AMTT ); AT & T IPM CORP (AMTT ); LUCENT  
TECHNOLOGIES INC (LUCE )

Inventor: JOHNSTON J D; NEUHOFF D L; PAPPAS T N; SAFRANEK R J; SESHADRI N

Number of Countries: 006 Number of Patents: 010

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 500267	A2	19920826	EP 92301204	A	19920213	199235 B
JP 5091331	A	19930409	JP 9269967	A	19920221	199319
EP 500267	A3	19930519	EP 92301204	A	19920213	199403
US 5309526	A	19940503	US 89350435	A	19890504	199417
			US 91659793	A	19910222	
			US 91763002	A	19910920	
			US 91785673	A	19911031	
US 5469268	A	19951121	US 91659793	A	19910222	199601
			US 9316414	A	19930211	
			US 95409474	A	19950322	
US 5475497	A	19951212	US 91659793	A	19910222	199604
			US 91763002	A	19910920	
			US 92978301	A	19921117	
			US 9355937	A	19930430	
			US 93129561	A	19930929	

US 5682442	A	19971028	US 89350435	A	19890504	199749
			US 91659793	A	19910222	
			US 91763002	A	19910920	
			US 91785673	A	19911031	
			US 94237500	A	19940503	
EP 500267	B1	19980909	EP 92301204	A	19920213	199840
DE 69226889	E	19981015	DE 626889	A	19920213	199847
			EP 92301204	A	19920213	
JP 3078386	B2	20000821	JP 9269967	A	19920221	200043

Priority Applications (No Type Date): US 91785673 A 19911031; US 91659793 A 19910222; US 91763002 A 19910920; US 89350435 A 19890504; US 9316414 A 19930211; US 95409474 A 19950322; US 92978301 A 19921117; US 9355937 A 19930430; US 93129561 A 19930929; US 94237500 A 19940503

Cited Patents: No-SR.Pub; 3.Jnl.Ref; EP 493101; US 4084196; WO 9004898; WO 9009075

#### Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 500267	A2	E	45	H04N-001/40	
Designated States (Regional): DE FR GB IT					
JP 5091331	A			H04N-001/40	
EP 500267	A3			H04N-001/40	
US 5309526	A		36	G06K-009/36	CIP of application US 89350435 CIP of application US 91659793 CIP of application US 91763002
US 5469268	A		27	H04N-001/387	Div ex application US 91659793 Cont of application US 9316414
US 5475497	A		30	H04N-001/387	CIP of application US 91659793 Cont of application US 91763002 Cont of application US 92978301 Cont of application US 9355937
US 5682442	A		47	G06K-009/36	CIP of application US 89350435 CIP of application US 91659793 CIP of application US 91763002 Cont of application US 91785673 Cont of patent US 5309526
EP 500267	B1	E		H04N-001/40	
Designated States (Regional): DE FR GB IT					
DE 69226889	E			H04N-001/40	Based on patent EP 500267
JP 3078386	B2		33	H04N-001/40	Previous Publ. patent JP 5091331

#### Abstract (Basic): EP 500267 A

The method generates an array of output binary signals for application to a display device to generate a **halftone image** in response to input signals characterising a **gray scale image**. Each of the input signals is modified in response to error signals. The error signals reflect differences between the modified input signals, and signals predictive of **regions of halftone images** formed by the display device in response to applied binary signals. A binary digit is formed in response to each of the modified input signals.

The forming of a binary digit comprises assigning one value to the binary digit whenever the modified input signal exceeds a threshold value, and assigning the other value whenever the modified input signal fails to exceed the threshold value.

ADVANTAGE - Gives unprecedented data compression of transmitted or stored **image** without perceptual degradation of reconstructed **image**.

Dwg.2/31

Title Terms: **IMAGE**; **ENCODE**; METHOD; TRANSMISSION; STORAGE; ADAPT; QUANTUM; **PIXEL**; SO; QUANTUM; NOISE; BELOW; LIMIT; PERCEPTION

Derwent Class: W02

International Patent Class (Main): G06K-009/36; H04N-001/387 ;  
H04N-001/40  
International Patent Class (Additional): G06K-009/40; H04N-001/405  
File Segment: EPI

17/5/26 (Item 21 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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009091739 \*\*Image available\*\*  
WPI Acc No: 1992-219162/199227  
XRPX Acc No: N92-166421

Halftone image generator with encoded machine-readable digital data  
- modulating angular orientation of halftone dots according to digital  
data valves

Patent Assignee: XEROX CORP (XERO )  
Inventor: TOW R F  
Number of Countries: 005 Number of Patents: 006  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 493053	A2	19920701	EP 91311919	A	19911223	199227 B
JP 4334266	A	19921120	JP 91341297	A	19911224	199301
EP 493053	A3	19921028	EP 91311919	A	19911223	199341
US 5315098	A	19940524	US 90634990	A	19901227	199420
EP 493053	B1	19960529	EP 91311919	A	19911223	199626
DE 69119882	E	19960704	DE 619882	A	19911223	199632
			EP 91311919	A	19911223	

Priority Applications (No Type Date): US 90634990 A 19901227  
Cited Patents: No-SR.Pub; 1.Jnl.Ref; EP 126782  
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 493053	A2	E	8	G06K-001/12	
JP 4334266	A		6	H04N-001/40	
US 5315098	A		7	G06K-019/06	
EP 493053	B1	E	9	G06K-019/06	
Designated States (Regional): DE FR GB					
DE 69119882	E			G06K-019/06	Based on patent EP 493053
EP 493053	A3			G06K-001/12	

Abstract (Basic): EP 493053 A

The system comprises a half tone generator (52) for supplying circularly assymetric half tone dot patterns whose size is modulated according to grey scale input image values. A pattern rotation (71) aligns the half tone dot patterns with the digital data values, and a raster converter (53) and printer (54) write the dot patterns into tiled cells of predetermined size for producing a half tone rendering of the image on a recording medium.

USE - For encoding machine-readable digital data in the angular orientation of assymetric half tone dot patterns.

Dwg.1/5

Title Terms: HALFTONE ; IMAGE ; GENERATOR; ENCODE ; MACHINE; READ;  
DIGITAL; DATA; MODULATE; ANGULAR; ORIENT; HALFTONE ; DOT; ACCORD;  
DIGITAL; DATA; VALVE

Derwent Class: P75; T04

International Patent Class (Main): G06K-001/12; G06K-019/06; H04N-001/40

International Patent Class (Additional): B41J-002/52; G06F-015/66 ;

G06F-015/68 ; G06K-015/00

File Segment: EPI; EngPI

17/5/27 (Item 22 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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008980500

WPI Acc No: 1992-107769/199214

XRPX Acc No: N92-080417

**Predictive image coding - selecting pixel prediction template**

**according to gray - scale mode of pixel region NoAbstract Dwg 1,2/10**

Patent Assignee: CANON KK (CANO )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 4006954	A	19920110	JP 90109650	A	19900424	199214 B

Priority Applications (No Type Date): JP 90109650 A 19900424

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 4006954	A	8		

Title Terms: PREDICT; **IMAGE** ; **CODE** ; SELECT; PIXEL; PREDICT; TEMPLATE;  
ACCORD; GRAY; SCALE; MODE; PIXEL; **REGION** ; NOABSTRACT

Derwent Class: W02

International Patent Class (Additional): **H04N-001/41**

File Segment: EPI

17/5/28 (Item 23 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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008901239 \*\*Image available\*\*

WPI Acc No: 1992-028508/199204

XRPX Acc No: N92-021602

**Image data processor - replaces pixels of binary-coded halftone image  
data with other pixels to condition gray scale NoAbstract Dwg 1-3/7**

Patent Assignee: RICOH KK (RICO )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 3274964	A	19911205	JP 9075832	A	19900326	199204 B

Priority Applications (No Type Date): JP 9075832 A 19900326

Title Terms: IMAGE; DATA; PROCESSOR; REPLACE; **PIXEL** ; BINARY; **CODE** ;  
**HALFTONE** ; IMAGE; DATA; **PIXEL** ; CONDITION; GRAY; SCALE; NOABSTRACT

Derwent Class: T01; W02

International Patent Class (Additional): **G06F-015/68 ; H04N-001/40**

File Segment: EPI

17/5/29 (Item 24 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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008644947 \*\*Image available\*\*

WPI Acc No: 1991-148977/199120

Related WPI Acc No: 1990-140029

XRPX Acc No: N91-114363

**Providing digital halftone images with random error diffusion - using**

range function to provide random factors which are used to spread errors to neighbouring pixels

Patent Assignee: BOWERS IMAGING TECH (BOWE-N)

Inventor: BOWERS H; BOWERS J S

Number of Countries: 016 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9106172	A	19910502				199120 B
CA 2027790	A	19910417				199126
US 5051841	A	19910924	US 89421931	A	19891016	199141
US 5107346	A	19920421	US 90509602	A	19900413	199219

Priority Applications (No Type Date): US 90509602 A 19900413; US 89421931 A 19891016; US 88257843 A 19881014

Cited Patents: Jnl.Ref; US 4449150; US 4890167; US 4891714; US 4924322; US 4958238; US 4969052

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 9106172	A		44		
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Designated States (National): JP

Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL SE

US 5051841	A		57		
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US 5107346	A		16		
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Abstract (Basic): WO 9106172 A

The process involves detecting **gray - scale** values at preselected **pixel** locations. For each value upper and lower limits of a range function are determined which depends on the detected values, and has values selected which are randomly located between the upper and lower limits of the range. If the detected value is less than a threshold value, it is **encoding** as a binary 1, and assigning a first, second and third error values assigned for the location.

If the detected value is greater than the threshold the location is **encoded** as a binary 0, and first, second and third error values assigned. For each location, the error values are distributed to three adjacent **pixel** locations, one on the same line as the preselected location and the other two on an adjacent line. Images are then printed.

ADVANTAGE - Visually perceptible artifacts are eliminated.

Dwg.1/7

Title Terms: DIGITAL; **HALESTONE** ; IMAGE; RANDOM; ERROR; DIFFUSION; RANGE; FUNCTION; RANDOM; FACTOR; SPREAD; ERROR; NEIGHBOURING; **PIXEL**

Derwent Class: W02

International Patent Class (Additional): **G06F-015/68 ; H04N-001/40**

File Segment: EPI

17/5/30 (Item 25 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008644858 \*\*Image available\*\*

WPI Acc No: 1991-148888/199120

XRPX Acc No: N91-114276

**Video image data compressor - transposes vertically scanned images to horizontal data, removes over-scan and under-scan and compresses information**

Patent Assignee: UNISYS CORP (BURS )

Inventor: DAoust R; GROSSE D Y; KLEIN R; KREBS S R; WILDS K A

Number of Countries: 016 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9106063	A	19910502				199120 B
US 5048104	A	19910910	US 89419778	A	19891010	199139
EP 450014	A	19911009	EP 90915042	A	19901004	199141
US 5055919	A	19911008	US 89419253	A	19891010	199143
US 5095374	A	19920310	US 89419611	A	19891010	199213
EP 450014	B1	19980128	EP 90915042	A	19901004	199809
			WO 90US5672	A	19901004	
DE 69032004	E	19980305	DE 632004	A	19901004	199815
			EP 90915042	A	19901004	
			WO 90US5672	A	19901004	

Priority Applications (No Type Date): US 89419778 A 19891010; US 89419253 A 19891010; US 89419611 A 19891010

Cited Patents: NoSR.Pub

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9106063	A		87		
					Designated States (National): CA JP KR
					Designated States (Regional): AT BE CH DE DK ES FR GB IT LU NL SE
US 5048104	A		28		
EP 450014	A				
					Designated States (Regional): DE FR GB IT
US 5055919	A		27		
US 5095374	A		27		
EP 450014	B1 E	35		G06T-009/00	Based on patent WO 9106063
					Designated States (Regional): DE FR GB IT
DE 69032004	E			G06T-009/00	Based on patent EP 450014
					Based on patent WO 9106063

Abstract (Basic): WO 9106063 A

The data compressor receives a vertically scanned **image** in which the pixels correspond to columns of **image** data. The compressor outputs reordered pixels corresponding to horizontal rows and deletes overscan and underscan information from each column data.

The transposed data is compressed using Huffman **encoding** in conjunction with run length **encoding** and prediction reordering. The equipment allows decomposition of previously compressed **image** data and the storage of **images** for later viewing and archival purposes.

USE/ADVANTAGE - Financial document sorting system. Consists of a single application specific integrated circuit (ASIC). Improved prediction efficiency over vertically compressed systems.

dwg.1/15

Title Terms: VIDEO; **IMAGE** ; DATA; COMPRESSOR; TRANSPOSE; VERTICAL; SCAN;

**IMAGE** ; HORIZONTAL; DATA; REMOVE; SCAN; SCAN; COMPRESS; INFORMATION

Derwent Class: T01; T04; T05; W02

International Patent Class (Main): G06T-009/00

International Patent Class (Additional): **G06F-015/64** ; G06K-009/36;

**H04N-001/40**

File Segment: EPI

17/5/31 (Item 26 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008591054 \*\*Image available\*\*

WPI Acc No: 1991-095086/199114

XRPX Acc No: N91-073490



**Coding arbitrarily formed digital image segments - deriving sentence of linear independent two-dimensional base functions by transformation**

Patent Assignee: ANT NACHRICHTENTECHNIK GMBH (AEGE ); ANT NACHRICHTENTECHNIK GMBH (BOSC )

Inventor: GILGE M

Number of Countries: 006 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3933346	C	19910404	DE 3933346	A	19891006	199114 B
EP 421186	A	19910410	EP 90117973	A	19900917	199115
EP 421186	A3	19921021	EP 90117973	A	19900917	199341
EP 421186	B1	19960320	EP 90117973	A	19900917	199616
DE 59010211	G	19960425	DE 510211	A	19900917	199622
			EP 90117973	A	19900917	
US 5666212	A	19970909	US 90594168	A	19901009	199742

Priority Applications (No Type Date): DE 3933346 A 19891006

Cited Patents: NoSR.Pub; 5.Jnl.Ref; DE 3150203; US 4797742

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 421186	A				
					Designated States (Regional): DE FR GB IT NL
EP 421186	B1	G	16	H04N-007/30	
					Designated States (Regional): DE FR GB IT NL
DE 59010211	G			H04N-007/30	Based on patent EP 421186
US 5666212	A		14	H04N-001/415	

Abstract (Basic): DE 3933346 C

A method is proposed for **coding** digital **picture** data, in particular for transmitting through channels of limited capacity, employing a transformation **coding** process which converts the video **picture** or a part of it into another representation by means of a specified transformation. The **picture** is represented by a number of coefficients corresponding to the number of **picture** points in the original **picture** and having only a low correlation compared with the points in the original **picture** but very different amplitudes.

A quantisation of the coefficients depending on an ordered arrangement of them can be performed that is capable of reconstructing approximately the original **picture** by a reversal of the transformation process.

USE/ADVANTAGE - Elimination of blocking effects that can cause faults. No restriction of data compression or condensation through dividing a block. Video transmission. (13pp Dwg.No.1/9

Title Terms: **CODE** ; **ARBITRARY**; **FORMING**; **DIGITAL**; **IMAGE** ; **SEGMENT** ; **DERIVATIVE**; **SENTENCE**; **LINEAR**; **INDEPENDENT**; **TWO**; **DIMENSION**; **BASE**; **FUNCTION** ; **TRANSFORM**

Derwent Class: W02

International Patent Class (Main): H04N-001/415 ; H04N-007/30

International Patent Class (Additional): H04N-001/41 ; H04N-007/13

File Segment: EPI

17/5/32 (Item 27 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008237539 \*\*Image available\*\*

WPI Acc No: 1990-124540/199016

**Raster operation anti-aliasing device - uses sub-pixel crossing**

**information to control pixel shading via anti-aliasing mask and filter**

Patent Assignee: SUN MICROSYSTEMS INC (SUNM )

Inventor: MALACHOWSKY C; PRIEM C; WEBBER T; MALACHOWSK C

Number of Countries: 004 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4908780	A	19900313	US 88258133	A	19881014	199016 B
GB 2223916	A	19900418	GB 8911382	A	19890518	199016
AU 8934582	A	19900426				199033
CA 1309183	C	19921020	CA 600158	A	19890518	199248
GB 2223916	B	19930428	GB 8911382	A	19890518	199317

Priority Applications (No Type Date): US 88258133 A 19881014

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
CA 1309183	C		G06F-015/62	
GB 2223916	B		G09G-001/14	

Abstract (Basic): US,4908780 A

The anti-aliasing is performed by logically dividing each addressable frame buffer pixel into sixteen sub-pixels and ' generating a **gray scale** value for the displayed pixel that is a w function of the number of sub-pixels crossed by a portion of rendered **image** . The circuitry is part of the circuitry used for combining source and destination data which forms the display **image** namely, an anti-aliasing mask and filter, adder/subtractor logic, saturation logic and anti-aliasing logic.

Destination data, which is stored in destination latch (78), is read from the frame buffer at an addressed memory location of the frame buffer (13) via memory interface (14). The appropriate addresses are provided to memory interface (14) from e the CPU (9). The destination data is held in latch (78) and then combined, by a Boolean operation specified by CPU, with one of the sources of data supplied by front font register or pattern register as will be described described below in more detail. The combination of a source and destination data yields a new destination data which is channeled through destination data output latch and written to a location within the frame buffer memory specified by an address supplied by CPU to memory interface.

USE - Performing anti-aliasing of rendered lines, text and **images** displayed by work station on video display.

Dwg.2/8

Title Terms: RASTER; OPERATE; ANTI; ALIASING; DEVICE; SUB; PIXEL; CROSS; INFORMATION; CONTROL; PIXEL; SHADE; ANTI; ALIASING; MASK; FILTER

Derwent Class: P85; T01; T04

International Patent Class (Main): **G06F-015/62** ; G09G-001/14

International Patent Class (Additional): G09G-001/16

File Segment: EPI; EngPI

**17/5/33 (Item 28 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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007167684

WPI Acc No: 1987-164693/198724

XRPX Acc No: N87-123499

**Two-dimensional original document image scanner - has binary coders of electric signals from photoelectric transducer, carrying out pseudo-grey-scale binary coding**

Patent Assignee: TOSHIBA AUTOMATION EQUIP ENG LTD (TOSH-N); TOSHIBA

INTELLIGENT TECHNOLOGY (TOSQ ); TOSHIBA KK (TOKE ); TOSHIBA INTELLIGENT

TECHNOLOGY KK (TOSQ )

Inventor: NONOYAMA M; TSUBOTA J; TSUKAHARA T

Number of Countries: 005 Number of Patents: 010

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3641894	A	19870611	DE 3641894	A	19861208	198724 B
JP 62135063	A	19870618	JP 85293157	A	19851227	198730
JP 62154963	A	19870709	JP 85294076	A	19851227	198733
JP 62154974	A	19870709	JP 8629317	A	19860213	198733
JP 62188470	A	19870818				198738
US 4760463	A	19880726	US 86938645	A	19861205	198832
DE 3645046	A	19881117	DE 3645046	A	19860213	198847
DE 3645046	C	19910829				199135
DE 3641894	C	19920527	DE 3641894	A	19861208	199222
JP 7074946	A	19950317	JP 85275478	A	19851207	199520
			JP 94135810	A	19851207	

Priority Applications (No Type Date): JP 8629317 A 19860213; JP 85275478 A 19851207; JP 85293157 A 19851227; JP 85294076 A 19851227

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 3641894	A		13		
US 4760463	A		19		
DE 3641894	C	22		H04N-001/00	Div in patent DE 3645046
JP 7074946	A	11		H04N-001/40	Div ex application JP 85275478

Abstract (Basic): JP 7074946 A

Dwg.1/6

DE 3641894 A

The **image** scanning unit (2-8) contains an optical system (2-6) and a photoelectric transducer (7,8). A binary coder (11,12) processes the transducer electric signal such that either no pseudo-grey scale **coding** appears, or provides a such **coding**. A **section** indicator (60) determines and describes a **section** of an original document (0).

The indicator gives also scanning modes within and outside the respective **section** and comprised two portions, one without a pseudo-grey scale **coding** and another one accompanied by such **coding**. A control (13-15,19,26) regulates output signals from the binary coder according to indicated **section** and scanning mode.

ADVANTAGE - Reliable scanning of symbols and **image** parts of combined document.

Title Terms: TWO; DIMENSION; ORIGINAL; DOCUMENT; **IMAGE** ; SCAN; BINARY; **CODE** ; ELECTRIC; SIGNAL; PHOTOELECTRIC; TRANSDUCER; CARRY; PSEUDO; GREY; SCALE; BINARY; **CODE**

Index Terms/Additional Words: **FACSI MILE 9625**

Derwent Class: W02

International Patent Class (Main): **H04N-001/40**

International Patent Class (Additional): G06K-009/38; G06T-001/00; **H04N-001/04 ; H04N-001/387 ; H04N-001/403 ; H04N-001/41**

File Segment: EPI

17/5/34 (Item 29 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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007124064

WPI Acc No: 1987-124061/198718

XRPX Acc No: N87-092717

Image coding system with block separation - has each block with

several image elements, with each element grey value signal divided into three components

Patent Assignee: NIPPON TELEGRAPH & TELEPHONE CORP (NITE )

Inventor: IBARAKI H; KOBAYASHI M; OCHI H; YAMAMOTO T

Number of Countries: 003 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3636675	A	19870430	DE 3636675	A	19861028	198718 B
JP 62100077	A	19870509	JP 85239347	A	19851028	198724
US 4788598	A	19881129	US 86924052	A	19861028	198850
DE 3636675	C	19890803				198931

Priority Applications (No Type Date): JP 85239347 A 19851028

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 3636675	A		23		
US 4788598	A		34		

Abstract (Basic): DE 3636675 A

The system divides an **image** into a number of blocks, each consisting of several **image** elements. A grey value information of each inner block **image** element is divided into three components, i.e. a reference level, reproducing a position of a signal level of an **image** element in the dynamic total **region** of a grey value presentation, a level difference representing an allocation **region** of the signal levels of the **image** elements, and a level determining signal, representing a level of each **image** element in the distribution **region**.

The three components are coded independently. The reference level is a min. value of a signal level of each **image** element, while the level difference forms a differential value between the min. and max. signal level of each inner block **image** element.

USE/ADVANTAGE - For effective **coding** of full tone **image**, without limit to two levels only.

Title Terms: **IMAGE** ; **CODE** ; SYSTEM; BLOCK; SEPARATE; BLOCK; **IMAGE** ; ELEMENT; ELEMENT; GREY; VALUE; SIGNAL; DIVIDE; THREE; COMPONENT

Derwent Class: W02

International Patent Class (Additional): G06K-009/36; H03M-007/30;

**H04N-001/41 ; H04N-007/13**

File Segment: EPI

17/5/35 (Item 30 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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004782570

WPI Acc No: 1986-285911/198644

XRPX Acc No: N86-213593

**Facsimile communication system message compression appts. - uses block coding and either matrices of black and white picture elements**

Patent Assignee: IBM CORP (IBMC )

Inventor: TOYOKAWA K

Number of Countries: 010 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 199065	A	19861029	EP 86103439	A	19860314	198644 B
JP 61245768	A	19861101				198650
US 4673987	A	19870616	US 85725970	A	19850422	198726
CA 1263741	A	19891205				199002

EP 199065            B    19900613                            199024  
DE 3672060           G    19900719                            199030

Priority Applications (No Type Date): US 85725970 A 19850422  
Cited Patents: A3...8836; DE 2552751; DE 3202155; GB 2073459; GB 2112608;  
No-SR.Pub

Patent Details:

Patent No    Kind    Lan    Pg    Main    IPC    Filing    Notes

EP 199065            A    E    23

Designated States (Regional): CH DE FR GB IT LI NL

EP 199065            B

Designated States (Regional): CH DE FR GB IT LI NL

Abstract (Basic): EP 199065 B

The apparatus includes a scanner to obtain **gray - scale** -level data of individual pels of a **code** . Some of the blocks corresponding to standardized patterns having a given array of black and white pels which represent uniform **code** levels of the subject. Other blocks corresponding to patterns having a random array of black and white pels which follow detail of the subject.

A processor modifies a series of **code** words of the block **code** by replacing repeated entries of **code** words with a further **code** corresponding designating the number of such repetitions. The repeated entries of **code** words designate a continuum of scene data in the subject. The processor operates via a process for identification of the standardised patterns and a detection of repetitions of the patterns as may occur during scanning. The modifying of the series of **code** words being in response to the identification and detection. (23pp  
Dwg.No.1/3)

Title Terms: FACSIMILE; COMMUNICATE; SYSTEM; MESSAGE; COMPRESS; APPARATUS;  
BLOCK; **CODE** ; MATRIX; BLACK; WHITE; **PICTURE** ; ELEMENT

Derwent Class: W02

International Patent Class (Additional): H03M-007/46; **H04N-001/41**

File Segment: EPI

**17/5/36            (Item 31 from file: 350)**

DIALOG(R) File 350:Derwent WPIX

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004736559

WPI Acc No: 1986-239901/198637

XRPX Acc No: N86-179234

**Control system for grey scale image display - converts intensity level  
luminance data to pulse signals to activate display dots on screen**

Patent Assignee: ASCII CORP (ASCII-N); NIPPON GAKKI SEIZO KK (NIHG );  
YAMAHA CORP (NIHG )

Inventor: ISHII T; KANEKO M

Number of Countries: 005    Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 193728	A	19860910	EP 86101118	A	19860128	198637 B
US 4779083	A	19881018	US 86824952	A	19860131	198844
EP 193728	B1	19920819	EP 86101118	A	19860128	199234
DE 3686428	G	19920924	DE 3686428	A	19860128	199240
			EP 86101118	A	19860128	

Priority Applications (No Type Date): JP 8545952 A 19850308; JP 8545951 A  
19850308

Cited Patents: A3...8917; GB 2124816; No-SR.Pub

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes  
EP 193728 A E 27  
Designated States (Regional): DE FR GB NL  
EP 193728 B1 E 19 H04N-003/12  
Designated States (Regional): DE FR GB NL  
DE 3686428 G H04N-003/12 Based on patent EP 193728

Abstract (Basic): EP 193728 B

A circuit generates a number of luminance data each representing an intensity level of a display dot. A circuit converts each luminance data fed from the generator into a pulse signal whose pulse number corresponds to the intensity level represented. A circuit activates each of the display dots in accordance with one of the pulse signals.

The display dots are grouped into a number of display **sections** each consisting of a predetermined number of adjacent display dots numbering at least two. The pulse signals for activating dots in the same display **section** are identical in pulse number but different in phase, if the luminance data are equal in intensity levels.

USE/ADVANTAGE - In liquid crystal display unit. Reduces flicker.

(27pp Dwg.No.3/16

Title Terms: CONTROL; SYSTEM; GREY; SCALE; **IMAGE** ; DISPLAY; CONVERT; INTENSITY; LEVEL; LUMINOUS; DATA; PULSE; SIGNAL; ACTIVATE; DISPLAY; DOT; SCREEN

Derwent Class: P85; T04; W03

International Patent Class (Main): **H04N-003/12**

International Patent Class (Additional): **G06F-003/14** ; G09G-003/36

File Segment: EPI; EngPI

**17/5/37 (Item 32 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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003867125

WPI Acc No: 1984-012653/198403

XRPX Acc No: N84-009410

**Universal image coder and controller - is for multicolour electrolytic printing uses concurrent pulse amplitude and width control and colour code expander**

Patent Assignee: IBM CORP (IBMC )

Inventor: DAILEY J R; KUNTZELMAN H C; NG S K; PIKE J W

Number of Countries: 005 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 97806	A	19840111	EP 83104953	A	19830519	198403 B
JP 58225778	A	19831227	JP 8368527	A	19830420	198406
US 4434432	A	19840228	US 82391777	A	19820624	198411

Priority Applications (No Type Date): US 82391777 A 19820624

Cited Patents: No-SR.Pub

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes  
EP 97806 A E 26  
Designated States (Regional): DE FR GB

Abstract (Basic): EP 97806 A

A storage array is connected to the colour **code** expander and it receives and stores the m k-bit words output by the expander. One bit of each word is stored in each **cell** of the array. Each word output by

the expander is made up of bit groups, with one group for each of a given number of increments of pulse duration, and the bits of each group defining any one of a given number of pulse amplitude increments.

Scanning registers are provided, one for each pulse duration increment. Each has a given bit pattern stored in it and is connected to the storage array to scan the array **cells** with that bit pattern.

array of logic OR gates (30) compares the bits stored with the scanning patterns and outputs the logical combination of each storage call bit and the corresponding bit of the scanning pattern. Output expanders and energy matrix drivers convert the outputs of the logic gates to the appropriate amplitude increment for each output node

Title Terms: UNIVERSAL; **IMAGE** ; **CODE** ; CONTROL; MULTICOLOUR; ELECTROLYTIC ; PRINT; CONCURRENT; PULSE; AMPLITUDE; WIDTH; CONTROL; COLOUR; **CODE** ; EXPAND

Derwent Class: P75; T01; T04

International Patent Class (Additional): B41J-003/20; G01D-015/06;

G06K-015/10; **H04N-001/40**

File Segment: EPI; EngPI

Set	Items	Description
S1	0	AU=(SHAKED D? OR SHAKED, D?)
S2	587747	RESOLUTION? OR BITMAP? OR CONTONE? OR PIXEL OR PIXMAP OR R- ASTER
S3	2605279	IMAGE? ? OR PICTURE? OR PICTORIAL OR PICTORAL OR PHOTO? ? - OR PHOTOGRAPH? OR INDICIA OR INDICIUM
S4	812321	CODE OR ENCOD? OR CODING OR WATERMARK?
S5	3503	GRAY()SCAL? OR GRAYSCAL?
S6	7365005	SEGMENT? OR SECTION? ? OR REGION? ? OR AREA? ? OR CELL? ?
S7	1139	HALFTONE? OR HALF()TONE?
S8	1539	S3(S)S5
S9	50	S8(15N)S7
S10	93	S4(S)S5
S11	24	S10(25N)(S7 OR S2)
S12	71	S9 OR S11
S13	52	S12 NOT PY>2000
S14	44	RD (unique items)

? show file

File 20:Dialog Global Reporter 1997-2003/Nov 14

(c) 2003 The Dialog Corp.

File 476:Financial Times Fulltext 1982-2003/Nov 14

(c) 2003 Financial Times Ltd

File 610:Business Wire 1999-2003/Nov 14

(c) 2003 Business Wire.

File 613:PR Newswire 1999-2003/Nov 14

(c) 2003 PR Newswire Association Inc

File 624:McGraw-Hill Publications 1985-2003/Nov 13

(c) 2003 McGraw-Hill Co. Inc

File 634:San Jose Mercury Jun 1985-2003/Nov 13

(c) 2003 San Jose Mercury News

File 810:Business Wire 1986-1999/Feb 28

(c) 1999 Business Wire

File 813:PR Newswire 1987-1999/Apr 30

(c) 1999 PR Newswire Association Inc



11/3,K/1 (Item 1 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2003 European Patent Office. All rts. reserv.

01634780

**Image forming apparatus and method**

**Gerat und Verfahren zur Bilderzeugung**

**Appareil et methode de formation d'image**

PATENT ASSIGNEE:

Ricoh Company, (2616510), 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo  
143-8555, (JP), (Applicant designated States: all)

INVENTOR:

Ohide, Toshio, 4-17-23, Tomuro, Atsugi-shi, Kanagawa, (JP)

LEGAL REPRESENTATIVE:

Lamb, Martin John Carstairs (76022), Marks & Clerk, 57-60 Lincolns Inn  
Fields, London WC2A 3LS, (GB)

PATENT (CC, No, Kind, Date): EP 1347630 A2 030924 (Basic)

APPLICATION (CC, No, Date): EP 2003251615 030317;

PRIORITY (CC, No, Date): JP 200278091 020320; JP 2002181824 020621

DESIGNATED STATES: AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR;  
HU; IE; IT; LI; LU; MC; NL; PT; RO; SE; SI; SK; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK

INTERNATIONAL PATENT CLASS: H04N-001/40

ABSTRACT WORD COUNT: 180

NOTE:

Figure number on first page: 5

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200339	3184
SPEC A	(English)	200339	14201
Total word count - document A			17385
Total word count - document B			0
Total word count - documents A + B			17385

...SPECIFICATION positions are in the same concentration.

(3) When a gray scale, which consists of a **halftone** pattern in which  
ON **pixel** density varies continuously, is output, a pulse width  
corresponding to each **code** must be set so that the variation in the  
concentration in the **gray scale** is continuous.

However, when an image is output using a look-up table prepared in...

11/3,K/2 (Item 2 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2003 European Patent Office. All rts. reserv.

01435754

**Method and apparatus for embedding translation information in text-based  
image data**

**System und Verfahren zur Integration von Übersetzungsinformationen in  
text-basierten Bilddaten**

**Methode et appareil d'insertion d'information de traduction dans des  
donnees d'image de texte**

PATENT ASSIGNEE:

Xerox Corporation, (219003), Xerox Square - 20 A, 100 Clinton Avenue  
South, Rochester, New York 14644, (US), (Applicant designated States:  
all)

INVENTOR:

Hecht, David L., 2001 Barbara Drive, Palo Alto, California 94303, (US)  
Kaplan, Ronald M., 4015 Orme Street, Palo Alto, California 94306, (US)  
Petrie, Glen W., 26150 Pierce Road, Los Gatos, California 95030, (US)  
Luckman, Colin G., Bessemer Road, Welwyn Garden City, Hertfordshire, AL7  
1 HE, (GB)

LEGAL REPRESENTATIVE:

Skone James, Robert Edmund (50281), GILL JENNINGS & EVERY Broadgate House  
7 Eldon Street, London EC2M 7LH, (GB)

PATENT (CC, No, Kind, Date): EP 1217537 A2 020626 (Basic)  
EP 1217537 A3 030730

APPLICATION (CC, No, Date): EP 2001310422 011213;

PRIORITY (CC, No, Date): US 738291 001218

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G06F-017/28

ABSTRACT WORD COUNT: 117

NOTE:

Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; English  
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200226	365
SPEC A	(English)	200226	4985
Total word count - document A			5350
Total word count - document B			0
Total word count - documents A + B			5350

...SPECIFICATION in a minimal amount of additional storage space per language.

In a preferred embodiment, the **encoded** multilingual information appears on the face of the hardcopy document as a compact, visually benign...

...of the primary information. Glyph marks represent one example of a suitable format for the **encoded** multilingual data. As shown in FIG. 4, glyph marks are composed of elongated slash-like...

...shown) operating at 300 d.p.i. to 600 d.p.i. to write 4 **pixel** x 4 **pixel** to 7 **pixel** x 7 **pixel** representations of the glyphs 422 and 423 on regularly spaced centers that are distributed widthwise and lengthwise of the recording medium 424 to produce the **code** pattern 421. The glyphs of these fine grain glyph **code** patterns are not easily resolved by the unaided human eye when the **code** patterns are viewed under standard lighting conditions and at normal reading distances, so the **code** pattern 421 typically has a generally uniform **gray scale** appearance. Alternatively, the glyph marks may be modulated in an area to form a glyph **half tone** image or glyphtone as disclosed in commonly assigned U.S. Patent Nos. 5,315,098...

...5,706,099 the contents of which are expressly incorporated by reference. Nevertheless, the glyph **code** is still capable of effectively communicating machine readable digital information. To carry out this function...

...and -45(degree) with respect to the longitudinal dimension of the recording medium 424. to **encode** binary "1's" and "0's", respectively, as shown at 425.

In a preferred embodiment...

11/3,K/3 (Item 3 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
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00996862

**Start code detecting apparatus for video data stream**  
**Vorrichtung zur Startkodedetektierung fur Videodatenstrom**  
**Appareil de detection de code de depart pour un flux de donnees video**  
PATENT ASSIGNEE:

Discovision Associates, (260275), 2355 Main Street, Suite 200, Irvine, CA  
92614, (US), (Applicant designated States: all)

INVENTOR:

Wise, Adrian Philip, 10 Westbourne Cottages, Frenchay, Bristol BS16 1NA,  
(GB)

Sotheran, Martin William, The Ridings, WickLane Stinchcombe, Dursley,  
Gloucestershire G11 6BD, (GB)

Robbins, William Philip, 19 Springhill, Cam, Gloucestershire GL11 5PE,  
(GB)

Finch, Helen Rosemary, Tyley, Coombe, Wotton-under-edge, Gloucester GL12  
7ND, (GB)

Boyd, Kevin James, 21 Lancashire Road, Bristol BS7 9DL, (GB)

LEGAL REPRESENTATIVE:

Cabinet Hirsch (101611), 34, Rue de Bassano, 75008 Paris, (FR)

PATENT (CC, No, Kind, Date): EP 901287 A2 990310 (Basic)  
EP 901287 A3 990922

APPLICATION (CC, No, Date): EP 98202166 950228;

PRIORITY (CC, No, Date): GB 9405914 940324

DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IE; IT; LI; NL

RELATED PARENT NUMBER(S) - PN (AN):

EP 674443 (EP 95301301)

INTERNATIONAL PATENT CLASS: H04N-007/24; G06F-013/00; G06F-009/38

ABSTRACT WORD COUNT: 112

NOTE:

Figure number on first page: 61

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9910	191
SPEC A	(English)	9910	126718
Total word count - document A			126909
Total word count - document B			0
Total word count - documents A + B			126909

...SPECIFICATION an adaptively acquired quad-tree division structure. Upon  
initialization of the system, a uniform, prescribed **gray scale** value  
or picture **half - tone** expressed as a defined luminance value is  
written into the image store of a coder...

11/3,K/4 (Item 4 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2003 European Patent Office. All rts. reserv.

00996861

**Multistandard decoder for Huffman codes**  
**Mehrnormendekodierer fur Huffmancodes**  
**Decodeur multistandard de codes de Huffman**

PATENT ASSIGNEE:

Discovision Associates, (260275), 2355 Main Street, Suite 200, Irvine, CA  
92614, (US), (applicant designated states:  
AT;BE;CH;DE;FR;GB;IE;IT;LI;NL)

INVENTOR:

Wise, Adrian Philip, 10 Westbourne Cottages, Frenchhay, Bristol BS16 1NA,  
(GB)  
Sotheran, Martin William, The Riddings, Wick Lane Stinchcombe, Dursley,  
Gloucestershire GL11 6BD, (GB)  
Robbins, William Philip, 19 Springhill, Cam, Gloucestershire GL11 5PE,  
(GB)  
Finch, Helen Rosemary, Tyley, Coombe, Wotton-Under-Edge, Gloucester GL12  
7ND, (GB)  
Boyd, Kevin James, 21 Lancashire Road, Bristol BS7 9DL, (GB)

LEGAL REPRESENTATIVE:

Vuillermoz, Bruno et al (72791), Cabinet Laurent & Charras B.P. 32 20,  
rue Louis Chirpaz, 69131 Ecully Cedex, (FR)  
PATENT (CC, No, Kind, Date): EP 901286 A1 990310 (Basic)  
APPLICATION (CC, No, Date): EP 98202135 950228;  
PRIORITY (CC, No, Date): GB 9405914 940324  
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IE; IT; LI; NL  
RELATED PARENT NUMBER(S) - PN (AN):  
EP 674443 (EP 953013018)  
INTERNATIONAL PATENT CLASS: H04N-007/24; G06F-013/00; G06F-009/38;  
ABSTRACT WORD COUNT: 155

LANGUAGE (Publication,Procedural,Application): English; English; English  
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9910	390
SPEC A	(English)	9910	126718
Total word count - document A			127108
Total word count - document B			0
Total word count - documents A + B			127108

...SPECIFICATION an adaptively acquired quad-tree division structure. Upon  
initialization of the system, a uniform, prescribed **gray scale** value  
or picture **half - tone** expressed as a defined luminance value is  
written into the image store of a coder...

11/3,K/5 (Item 5 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00992407

Pipeline decoding system

Pipeline-System zur Dekodierung

Systeme pipeline de decodage

PATENT ASSIGNEE:

Discovision Associates, (260275), 2355 Main Street, Suite 200, Irvine, CA  
92614, (US), (applicant designated states:  
AT;BE;CH;DE;FR;GB;IE;IT;LI;NL)

INVENTOR:

Wise, Adrian Philip, 10 Westbourne Cottages, Frenchay, Bristol BS16 1NA,  
(GB)  
Sotheran, Martin William, The Ridings, Wick Lane, Stinchcombe, Dursley,  
Gloucestershire G11 6BD, (GB)  
Robbins, William Philip, 19 Springhill, Cam, Gloucestershire GL11 5PE,  
(GB)  
Finch, Helen Rosemary, Tyley, Coombe, Wotton-Under-Edge, Gloucester GL12

7ND, (GB)  
Boyd, Kevin James, 21 Lancashire Road, Bristol BS7 9DL, (GB)  
LEGAL REPRESENTATIVE:  
Vuillermoz, Bruno et al (72791), Cabinet Laurent & Charras B.P. 32 20,  
rue Louis Chirpaz, 69131 Ecully Cedex, (FR)  
PATENT (CC, No, Kind, Date): EP 897244 A1 990217 (Basic)  
APPLICATION (CC, No, Date): EP 98202134 950228;  
PRIORITY (CC, No, Date): GB 9405914 940324  
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IE; IT; LI; NL  
RELATED PARENT NUMBER(S) - PN (AN):  
EP 674443 (EP 953013018)  
INTERNATIONAL PATENT CLASS: H04N-007/24; G06F-013/00; G06F-009/38;  
ABSTRACT WORD COUNT: 120

LANGUAGE (Publication,Procedural,Application): English; English; English  
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9907	298
SPEC A	(English)	9907	126715
Total word count - document A			127013
Total word count - document B			0
Total word count - documents A + B			127013

...SPECIFICATION an adaptively acquired quad-tree division structure. Upon initialization of the system, a uniform, prescribed **gray scale** value or picture **half - tone** expressed as a defined luminance value is written into the image store of a coder...

11/3,K/6 (Item 6 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
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00750803

**Improved adaptive filtering and thresholding arrangement for reducing graininess of images**

**Vorrichtung zur adaptiven Filterung und Schwellenwertverarbeitung zur Verminderung der Bildkornigkeit**

**Dispositif amelioré de filtrage adaptatif et d'établissement de seuil pour réduire la granulosité d'images**

PATENT ASSIGNEE:

SEIKO EPSON CORPORATION, (730001), 4-1, Nishishinjuku 2-chome,  
Shinjuku-ku, Tokyo 160-0811, (JP), (Proprietor designated states: all)

INVENTOR:

Shu, Joseph S., 5988 Rainbow Drive, San Jose, California, (US)

LEGAL REPRESENTATIVE:

Sturt, Clifford Mark et al (50502), Miller Sturt Kenyon 9 John Street,  
London WC1N 2ES, (GB)

PATENT (CC, No, Kind, Date): EP 707410 A2 960417 (Basic)  
EP 707410 A3 970917  
EP 707410 B1 010822

APPLICATION (CC, No, Date): EP 95307172 951011;

PRIORITY (CC, No, Date): US 320550 941011

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: H04N-001/405

ABSTRACT WORD COUNT: 120

NOTE:

Figure number on first page: 9

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB96	1221
CLAIMS B	(English)	200134	1186
CLAIMS B	(German)	200134	1090
CLAIMS B	(French)	200134	1427
SPEC A	(English)	EPAB96	7507
SPEC B	(English)	200134	7715
Total word count - document A			8730
Total word count - document B			11418
Total word count - documents A + B			20148

...SPECIFICATION system; digitizing means responsive to a continuous-tone image for generating a stream of electronically **encoded pixel** values, each representing a **grayscale** value of a portion of the continuous-tone image; means responsive to the stream of electronically **encoded pixel** values for storing the electronically **encoded pixel** values in a plurality of linear segments, each linear segment comprising **pixel** values that represent contiguous portions of the continuous-tone image; a **pixel** detection and control circuit for determining the **grayscale** values of the electronically **encoded** pixels; means for adaptively quantizing the **grayscale** values to process the **encoded** pixels into a **halftone** pattern and to generate quantization errors; and a printer for printing the **halftone** pattern of dots on a print medium to generate a **halftone** image; characterised by: a filter circuit including a plurality of multiplexed error filters, each having...

...a selected one of said multiplexed error filters being activated in response to the determined **grayscale** values to diffuse the quantization errors among neighbouring pixels of the linear segments.

The number...

11/3,K/7 (Item 7 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00750799

**Method and apparatus for minimizing artifacts in images produced by error diffusion halftoning utilizing ink reduction processing**

**Verfahren und Gerat zur Herabsetzung von Artefakten in mittels Halbtonfehlerdiffusion erzeugten Bildern unter Verwendung von Tintenverminderungsverarbeitung**

**Procede et appareil pour minimiser des defaults dans des images rendues en demi-teintes par diffusion d'erreurs utilisant un traitement de reduction d'encre**

PATENT ASSIGNEE:

SEIKO EPSON CORPORATION, (730008), 4-1, Nishi-Shinjuku 2-chome, Shinjuku-ku, Tokyo, (JP), (Proprietor designated states: all)

INVENTOR:

Shu, Joseph S., 5988 Rainbow Drive, San Jose, California, (US)

LEGAL REPRESENTATIVE:

Sturt, Clifford Mark et al (50502), Miller Sturt Kenyon 9 John Street, London WC1N 2ES, (GB)

PATENT (CC, No, Kind, Date): EP 707412 A2 960417 (Basic)  
EP 707412 A3 970618  
EP 707412 B1 020731

APPLICATION (CC, No, Date): EP 95307167 951011;

PRIORITY (CC, No, Date): US 320537 941011

DESIGNATED STATES: DE; FR; GB  
INTERNATIONAL PATENT CLASS: H04N-001/405  
ABSTRACT WORD COUNT: 76  
NOTE:

Figure number on first page: 18

LANGUAGE (Publication,Procedural,Application): English; English; English  
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB96	1519
CLAIMS B	(English)	200231	2182
CLAIMS B	(German)	200231	2054
CLAIMS B	(French)	200231	2439
SPEC A	(English)	EPAB96	14849
SPEC B	(English)	200231	14972
Total word count - document A			16371
Total word count - document B			21647
Total word count - documents A + B			38018

...SPECIFICATION continuous-tone image for generating a stream of electronically encoded pixel values, each representing a **gray - scale** value of a portion of the continuous-tone image; memory means responsive to the stream of electronically **encoded pixel** values for storing the electronically **encoded pixel** values in a plurality of linear segments, each linear segment having a start and an end and comprising **pixel** values that represent contiguous portions of the continuous-tone image; reading means for reading pixels from said memory means; halftoning means controllable to process each **pixel** value corresponding to the electronically **encoded pixel** read by said reading means in each of the plurality of linear segments in a...

...the output results from printing patterns of dots on a print medium to generate a **halftoned** image; characterised in that the reading means reads every other **pixel** from said memory means.

According to a fifth aspect of the present invention, there is... responsive to a continuous-tone image generates a stream of electronically encoded pixels each representing **gray scale** value of a portion of a the continuous-tone image. A memory means responsive to the stream of electronically **encoded** pixels stores the electronically **encoded pixel** values in a plurality of linear segments, each linear segment having a start and an end and comprising **pixel** values that represent contiguous portions of the continuous-tone image. A reading means reads every other **pixel** from the memory means. A halftoning means processes each **pixel** value corresponding to the electronically **encoded pixel** read by the reading means in each of the plurality of line segments in a...

...the output results prints patterns of monochrome dots on a print medium to generate a **half - tone** image.

According to still another aspect of the present invention, an apparatus and a method...

...SPECIFICATION responsive to a continuous-tone image generates a stream of electronically encoded pixels each representing **gray scale** value of a portion of a the continuous-tone image. A memory means responsive to the stream of electronically **encoded** pixels stores the electronically **encoded pixel** values in a plurality of linear segments, each linear segment having a start and an end and comprising **pixel** values that represent contiguous portions of the continuous-tone image. A reading means reads every other **pixel** from the memory means. A halftoning means

processes each **pixel** value corresponding to the electronically **encoded pixel** read by the reading means in each of the plurality of line segments in a...

...the output results prints patterns of monochrome dots on a print medium to generate a **half - tone** image.

According to still another aspect of the present invention, an apparatus and a method...

**11/3,K/8 (Item 8 from file: 348)**

DIALOG(R)File 348:EUROPEAN PATENTS

(c) 2003 European Patent Office. All rts. reserv.

00750798

**Improved method and apparatus for vivid color correction in binary printing devices**

**Verbessertes Verfahren und Gerat zur Korrektur heller Farben in Binardruckvorrichtungen**

**Procede et appareil ameliores pour la correction de couleurs intenses dans des dispositifs d'impression binaire**

PATENT ASSIGNEE:

SEIKO EPSON CORPORATION, (730008), 4-1, Nishi-Shinjuku 2-chome, Shinjuku-ku, Tokyo, (JP), (Proprietor designated states: all)

INVENTOR:

Shu, Joseph S., 5988 Rainbow Drive, San Jose, California, (US)

LEGAL REPRESENTATIVE:

Sturt, Clifford Mark et al (50502), Miller Sturt Kenyon 9 John Street, London WC1N 2ES, (GB)

PATENT (CC, No, Kind, Date): EP 707415 A2 960417 (Basic)  
EP 707415 A3 970305  
EP 707415 B1 000726

APPLICATION (CC, No, Date): EP 95307166 951011;

PRIORITY (CC, No, Date): US 320538 941011

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: H04N-001/52

ABSTRACT WORD COUNT: 121

NOTE:

Figure number on first page: 7

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200030	1106
CLAIMS B	(German)	200030	981
CLAIMS B	(French)	200030	1302
SPEC B	(English)	200030	5248
Total word count - document A			0
Total word count - document B			8637
Total word count - documents A + B			8637

**11/3,K/9 (Item 9 from file: 348)**

DIALOG(R)File 348:EUROPEAN PATENTS

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00750796

**Improved method and apparatus for dither array generation to reduce artifacts in halftoned image data utilizing ink reduction processing**

**Verbessertes Verfahren und Gerat zur Erzeugung von Zittermatrizen zur**



Herabsetzung von Artefakten in Halbtonbilddaten unter Verwendung von  
Tintenverminderungsverarbeitung  
Procédé et appareil améliorés pour la génération de matrices de tremblement  
pour la réduction de défauts dans des données d'images en demi-teintes  
utilisant un traitement de réduction d'encre

PATENT ASSIGNEE:

SEIKO EPSON CORPORATION, (730003), 4-1, Nishishinjuku 2-chome,  
Shinjuku-ku Tokyo, (JP), (Proprietor designated states: all)

INVENTOR:

Shu, Joseph S., 5988 Rainbow Drive, San Jose, California, (US)

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Sturt, Clifford Mark et al (50502), Miller Sturt Kenyon 9 John Street,  
London WC1N 2ES, (GB)

PATENT (CC, No, Kind, Date): EP 707411 A2 960417 (Basic)  
EP 707411 A3 961204  
EP 707411 B1 000322

APPLICATION (CC, No, Date): EP 95307164 951011;

PRIORITY (CC, No, Date): US 320534 941011

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: H04N-001/405

ABSTRACT WORD COUNT: 144

NOTE:

Figure number on first page: 20

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200012	1406
CLAIMS B	(German)	200012	1203
CLAIMS B	(French)	200012	1649
SPEC B	(English)	200012	14635
Total word count - document A			0
Total word count - document B			18893
Total word count - documents A + B			18893

...SPECIFICATION responsive to a continuous-tone image generates a stream of electronically encoded pixels each representing **gray scale** value of a portion of a the continuous-tone image. A memory means responsive to the stream of electronically **encoded** pixels stores the electronically **encoded pixel** values in a plurality of linear segments, each linear segment having a start and an end and comprising **pixel** values that represent contiguous portions of the continuous-tone image. A reading means reads every other **pixel** from the memory means. A halftoning means processes each **pixel** value corresponding to the electronically **encoded pixel** read by the reading means in each of the plurality of line segments in a...

...the output results prints patterns of monochrome dots on a print medium to generate a **half - tone** image.

According to still another aspect of the present invention, an apparatus and a method...

11/3,K/10 (Item 10 from file: 348)

DIALOG(R) File 348:EUROPEAN PATENTS

(c) 2003 European Patent Office. All rts. reserv.

00732169

Method and apparatus for minimizing artifacts in images produced by error diffusion halftoning

**Verfahren und Gerat zur Verringerung von Storungen in durch Fehlerdiffusion  
halbtongerasterten Bildern**

**Procede et appareil pour minimiser les distortions dans les images  
restituees en demi-teintes par diffusion d'erreur**

**PATENT ASSIGNEE:**

SEIKO EPSON CORPORATION, (730000), 4-1, Nishishinjuku 2-chome,  
Shinjuku-ku Tokyo-to, (JP), (Proprietor designated states: all)

**INVENTOR:**

Shu, Joseph S., 5988 Rainbow Drive, San Jose, California, (US)

**LEGAL REPRESENTATIVE:**

Sturt, Clifford Mark et al (50502), Miller Sturt Kenyon 9 John Street,  
London WC1N 2ES, (GB)

**PATENT (CC, No, Kind, Date):** EP 690612 A2 960103 (Basic)  
EP 690612 A3 970618  
EP 690612 B1 010822

**APPLICATION (CC, No, Date):** EP 95304610 950630;

**PRIORITY (CC, No, Date):** US 269708 940701

**DESIGNATED STATES:** DE; FR; GB

**INTERNATIONAL PATENT CLASS:** H04N-001/405

**ABSTRACT WORD COUNT:** 114

**NOTE:**

Figure number on first page: 5

**LANGUAGE (Publication,Procedural,Application):** English; English; English

**FULLTEXT AVAILABILITY:**

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB96	2005
CLAIMS B	(English)	200134	2053
CLAIMS B	(German)	200134	1814
CLAIMS B	(French)	200134	2538
SPEC A	(English)	EPAB96	4830
SPEC B	(English)	200134	4810
Total word count - document A			6837
Total word count - document B			11215
Total word count - documents A + B			18052

...SPECIFICATION continuous-tone image for generating a stream of electronically encoded pixel values, each representing a **gray - scale** value of a portion of the continuous-tone image;  
means responsive to the stream of electronically **encoded pixel** values for storing the electronically **encoded pixel** values in a plurality of linear segments, each linear segment having a start and an end and comprising **pixel** values that represent contiguous portions of the continuous-tone image;

halftoning means controllable to process each **pixel** value in each of the plurality of linear segments in a start to end sequence...

...output results; and characterised by also comprising;

direction means responsive to the stored electronically coded **pixel** values or the output results for controlling the halftoning means to select one of the...

...output results for printing patterns of monochrome dots on a print medium to generate a **halftoned** image.

Briefly, the present preprocessing method and apparatus varies the processing direction from line-to...

...CLAIMS continuous-tone image for generating a stream of electronically

encoded pixel values, each representing a **gray - scale** value of a portion of the continuous-tone image;

means (502) responsive to the stream of electronically **encoded pixel** values for storing the electronically **encoded pixel** values in a plurality of linear segments, each linear segment having a start and an end and comprising **pixel** values that represent contiguous portions of the continuous-tone image;

halftoning means (528) controllable to process each **pixel** value in each of the plurality of linear segments in a start to end sequence...

...results; and characterised by also comprising;

direction means (514) responsive to the stored electronically coded **pixel** values or the output results for controlling the halftoning means to select one of the...

...output results for printing patterns of monochrome dots on a print medium to generate a **halftoned** image.

38. The computer system of claim 37 wherein the direction means comprises means responsive....

11/3,K/11 (Item 11 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2003 European Patent Office. All rts. reserv.

00625499

**System for electronically printing plural-color tamper-resistant documents**  
**System zum elektronischen Drucken falschungssicherer Mehrfarbdokumente**  
**Systeme de copiage electronique pour des documents en plusieurs couleurs,**  
**difficile a imiter**

PATENT ASSIGNEE:

XEROX CORPORATION, (219783), Xerox Square, Rochester, New York 14644,  
(US), (Proprietor designated states: all)

INVENTOR:

Heckman, Dean A., 2467 Maple Avenue, Palmyra, New York 14522, (US)  
Tuttle, Steven R., 2464 Browncroft Boulevard, Rochester, New York 14625,  
(US)

Qureshi, Irshad H., 40 Delemere Boulevard, Fairport, New York 14450, (US)

LEGAL REPRESENTATIVE:

Grunecker, Kinkeldey, Stockmair & Schwanhausser Anwaltssozietat (100721)  
, Maximilianstrasse 58, 80538 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 610035 A2 940810 (Basic)

EP 610035 A3 950315

EP 610035 B1 990922

APPLICATION (CC, No, Date): EP 94300641 940128;

PRIORITY (CC, No, Date): US 14474 930205

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: H04N-001/46; G03G-015/01; G03G-021/00;

B44F-001/12

ABSTRACT WORD COUNT: 209

NOTE:

Figure number on first page: 4

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text Language Update Word Count

CLAIMS B	(English)	9938	553
CLAIMS B	(German)	9938	444
CLAIMS B	(French)	9938	602
SPEC B	(English)	9938	6419
Total word count - document A			0
Total word count - document B			8018
Total word count - documents A + B			8018

...SPECIFICATION the other represented using black. The two partial images for example could be assigned a **halftone** area coverage with a varying gradient density of 30 - 25% for the highlight color image...

...image in the black image by embedding a warning word such as "VOID" within the **halftone** pattern by using a dark outline to form the latent image 53 while interlacing varying **halftone** densities that are not distinguishable to the human eye but sensitive to copying on electrophotographic...

...in the black image, both images (highlight color and black) are blended with an overlay **encoding** 52 as indicated by step 112. Blended within the two images is an object such...

...ellipse having text embedded therein. The blending of the text and object forms an uniquely **encoded** pattern that is overlayed in a clear and opaque fashion over the two images. It...

...that these overlayed images can be positioned so that they appear in exactly the same **pixel** positions within the respective images, or offset by a number of pixels, both of which are deterrents to reproduction or alteration of the original. At step 113 an output file **bitmap resolution** is selected from which a Corel Draw graphical representation is resolved to bits at step 114. The resolved **bitmaps** for the two respective images may be stored in a TIFF (Tag Image File Format...are machine readable. Any of the following Xerox Corporation U.S. patents describe basic glyph **code**, plus various decoding processes, which can be used herewith: 5,091,966; 5,128,525...

...S. 5,051,779.) As taught by the former, machine readable digital information may be **encoded** in the angular orientation and/or the geometric profiles of the disjoint "glyphs" of a self-clocking glyph **code**. Advantageously, the glyphs may be defined by **pixel** patterns that have approximately the same number of ON pixels and approximately the same number of OFF pixels, such that the **code** has a generally uniform texture (e.g., a generally uniform gray tone for higher density...

...glyph may equal the number of OFF pixels/glyph (that will provide an approximately 50% **grayscale** value), but a UNIFORM **grayscale** can be provided even if they do not. However, preferably all glyphs have essentially the...

...y OFF pixels/glyph). If both of those conditions are satisfied, a high density glyph **code** will have a uniform **grayscale** appearance, with the specific **grayscale** value being dependent on the ratio of the number of ON pixels/glyph to the...

...e.,  $x/(x + y)$ . EP-A-0,493,053 relates to machine readable digital information **encoded** in the angular orientation of circularly asymmetric **halftone** dot patterns that are written into the **halftone** cells of digital **halftone** images. The "latent" digital information of the glyphs may be imbedded in security **halftone** patterns described herein which are also electronically generated. A glyph generator/converter 38 is

schematically...

...information and additional information, such as hidden serial numbers, can be automatically converted to glyph **code** and automatically buried into the safety background pattern of the integrated document image.  
With a...

**11/3,K/12 (Item 12 from file: 348)**  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2003 European Patent Office. All rts. reserv.

00315681

**Image processing apparatus.**

**Bildverarbeitungsgerat.**

**Appareil de traitement d'images.**

PATENT ASSIGNEE:

KONICA CORPORATION, (914640), No. 26-2, Nishi-Shinjuku 1-chome  
Shinjuku-ku, Tokyo 106, (JP), (applicant designated states: DE;GB)

INVENTOR:

Abe, Yoshinori c/o Konica Corporation, 2970 Ishikawa-machi, Hachioji-shi  
Tokyo, (JP)

Watanabe, Kazuo c/o Konica Corporation, 2970 Ishikawa-machi, Hachioji-shi  
Tokyo, (JP)

Kimoto, Tetsuo c/o Konica Corporation, 2970 Ishikawa-machi, Hachioji-shi  
Tokyo, (JP)

Hirata, Tetsuo c/o Konica Corporation, 2970 Ishikawa-machi, Hachioji-shi  
Tokyo, (JP)

Kobayashi, Chiharu c/o Konica Corporation, 2970 Ishikawa-machi,  
Hachioji-shi Tokyo, (JP)

Endo, Hideki c/o Konica Corporation, 2970 Ishikawa-machi, Hachioji-shi  
Tokyo, (JP)

LEGAL REPRESENTATIVE:

Wood, Anthony Charles et al (37871), Urquhart-Dykes & Lord 91 Wimpole  
Street, London W1M 8AH, (GB)

PATENT (CC, No, Kind, Date): EP 305126 A2 890301 (Basic)  
EP 305126 A3 910327

APPLICATION (CC, No, Date): EP 88307728 880819;

PRIORITY (CC, No, Date): JP 87208174 870824; JP 87243655 870930; JP  
87243656 870930; JP 87243657 870930

DESIGNATED STATES: DE; GB

INTERNATIONAL PATENT CLASS: H04N-001/46;

ABSTRACT WORD COUNT: 62

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	569
SPEC A	(English)	EPABF1	3660
Total word count - document A			4229
Total word count - document B			0
Total word count - documents A + B			4229

...SPECIFICATION separator 11 through a connector 112.

Each color separation map data is stored as color **code** (designating red, blue, or black) and **gray scale** data at an address provided by 6-bit image data VR and VC each having a **halftone** level. More specifically,

one image data = color **code** + **gray scale** data

For example, a **pixel** having the 30th **gray scale** level (XX011110)

can be represented by hexadecimal notation as follows: (see image in original document...)

**11/3,K/13 (Item 13 from file: 348)**  
DIALOG(R)File 348:EUROPEAN PATENTS  
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00280429

**DATA COMMUNICATION EQUIPMENT.**

**DATENUBERTRAGUNGSANLAGE.**

**EQUIPEMENT DE COMMUNICATION DE DONNEES.**

PATENT ASSIGNEE:

CANON KABUSHIKI KAISHA, (542362), 30-2, Shimomaruko 3-chome, Ohta-ku  
Tokyo 146, (JP), (applicant designated states: DE;FR;GB;IT;NL)

INVENTOR:

ABE, Shintaro, 2181-6, Takakura Fuzisawa-shi, Kanagawa 252, (JP)

NAKAMURA, Kaoru, 8-9-103, Kashima Hachiouzi-shi, Tokyo 192-03, (JP)

LEGAL REPRESENTATIVE:

Beresford, Keith Denis Lewis et al (28273), BERESFORD & Co. 2-5 Warwick  
Court High Holborn, London WC1R 5DJ, (GB)

PATENT (CC, No, Kind, Date): EP 269746 A1 880608 (Basic)

EP 269746 A1 900314

EP 269746 B1 940504

WO 8707107 871119

APPLICATION (CC, No, Date): EP 87903407 870516; WO 87JP310 870516

PRIORITY (CC, No, Date): JP 86112063 860516; JP 86261128 861101

DESIGNATED STATES: DE; FR; GB; IT; NL

INTERNATIONAL PATENT CLASS: H04N-001/00; H04N-001/41;

LANGUAGE (Publication,Procedural,Application): English; English; Japanese

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	170
CLAIMS B	(German)	EPBBF1	154
CLAIMS B	(French)	EPBBF1	209
SPEC B	(English)	EPBBF1	5009

Total word count - document A 0

Total word count - document B 5542

Total word count - documents A + B 5542

...SPECIFICATION is merely an example, and the present invention is not limited thereto.

Note that the **halftone** image data is constituted by a 1- **pixel** /8-bit **gray scale code** obtained by A/D-converting the data from the reader 10. In order to transmit the **halftone** block which is a group of the **halftone** image data, the block is packet-transmitted in units of data of a predetermined number...

...received packet data of a predetermined number of bits are assembled to reproduce the 1- **pixel** /8-bit **halftone** image block. Therefore, if a reception recording unit 70 is a so-called multilevel printer which can reproduce a **halftone** image in correspondence to the **gray scale code** by luminance modulation or pulse width modulation, the transmitted **halftone** image block can be reliably received and recorded.

In the above embodiment, the image area...

**11/3,K/14 (Item 14 from file: 348)**  
DIALOG(R)File 348:EUROPEAN PATENTS  
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00225200

**Halftone picture processing apparatus.**

**Halbtonbildverarbeitungseinrichtung.**

**Appareil de traitement des images en demi-teinte.**

PATENT ASSIGNEE:

NIPPON TELEGRAPH AND TELEPHONE CORPORATION, (686330), 1-6 Uchisaiwaicho  
1-chome Chiyoda-ku, Tokyo, (JP), (applicant designated states:  
DE;FR;GB)

INVENTOR:

Ibaraki, Hisashi, NTT dokushin-ryo B-203 4622, Kamariya, Kanazawa-ku  
Yokohama-shi Kanagawa-ken, (JP)  
Kobayashi, Makoto, NTT shataku 1-501 2-1-3, Hayashi, Yokosuka-shi  
Kanagawa-ken, (JP)  
Ochi, Hiroshi, NTT shataku 7-5-203 510, Tsukui, Yokosuka-shi Kanagawa-ken  
, (JP)

LEGAL REPRESENTATIVE:

Mongredien, Andre et al (17412), c/o SOCIETE DE PROTECTION DES INVENTIONS  
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PATENT (CC, No, Kind, Date): EP 187724 A2 860716 (Basic)  
EP 187724 A3 890531  
EP 187724 B1 920930

APPLICATION (CC, No, Date): EP 86400020 860107;

PRIORITY (CC, No, Date): JP 852453 850110; JP 8533696 850223; JP 8579874  
850415; JP 85287696 851223

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: H04N-001/40;

ABSTRACT WORD COUNT: 86

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	1161
CLAIMS B	(German)	EPBBF1	1025
CLAIMS B	(French)	EPBBF1	1363
SPEC B	(English)	EPBBF1	7911
Total word count - document A			0
Total word count - document B			11460
Total word count - documents A + B			11460

...SPECIFICATION is represented by dot size.

Most general gray scale or color images provide printouts utilizing **halftone** pictures. In general, **halftone** pictures are used in the field of printing to express the density of an original. By using different sized dots, a continuous-tone picture can be represented by a **halftone** picture. **Halftone** pictures are thus used for most printouts. Ink dot patterns vary from fine to rough...

...sampling period so that the change in gradation between adjacent pixels is small. However, a **halftone** picture is constituted by an aggregate of small black dots, the density of which is substantially the same as the sampling period. For this reason, the gradation abruptly changes from **pixel** to **pixel**. When a **halftone** picture is transmitted by a facsimile system or the like, or is **encoded** and stored as an image file in a memory, existing **coding** schemes assume that gradation changes are the same as in continuous-tone pictures. As a result, the conventional **coding** schemes are not suitable for **halftone** pictures and greatly impair **coding** efficiency.

When a gray scale picture is accessed at a binary terminal, a halftone picture...

11/3,K/15 (Item 1 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00259162

**ENCRYPTION DEVICE**

**DISPOSITIF DE CHIFFREMENT**

Patent Applicant/Assignee:

VIRGA Richard,

Inventor(s):

VIRGA Richard,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9407326 A1 19940331

Application: WO 93US8966 19930920 (PCT/WO US9308966)

Priority Application: US 92948055 19920921

Designated States: AU CA JP KR RU AT BE CH DE DK ES FR GB GR IE IT LU MC NL  
PT SE

Publication Language: English

Fulltext Word Count: 9776

Fulltext Availability:

Detailed Description

Detailed Description

... connected to  
processor 7 to print encrypted or decrypted documents, as  
appropriate.

The encryption of **half - tone** images and color  
images requires a scanner capable of scanning and  
representing such images. For example, if the original  
image is an industry-standard 256-level **gray scale** image,  
a particular scanned **pixel** could be represented by a  
number from 0 to 255, representing the lightness or  
darkness of the **pixel**, i.e., the gray level or **half - tone**  
**code**. Thus, instead of a one-bit representation of each  
**pixel**, in this representation, each **pixel** has an eight  
bit representation. These bits can be encrypted just as  
can documents represented by one bit per **pixel**, except  
that they appear eight times larger (in the case of a 0  
to 255 **half - tone code**) to the encryption algorithm and  
require eight times the amount of storage per page of...

...encrypted documents will be much larger than  
documents scanned with a one-bit representation per  
**pixel**.

Half-tone and color encrypted documents can be  
printed with an ordinary black-and-white...

11/3,K/16 (Item 2 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00247437 \*\*Image available\*\*

**METHODS AND APPARATUS FOR HALFTONING AND INVERSE HALFTONING AND THE  
TRANSMISSION OF SUCH IMAGES**

**PROCEDE ET DISPOSITIF D'OBTENTION D'IMAGES EN DEMI-TEINTE ET EN DEMI-TEINTE**



**INVERSE, ET TRANSMISSION DE CES IMAGES**

Patent Applicant/Assignee:

RESEARCH CORPORATION TECHNOLOGIES INC,

Inventor(s):

PARKER Kevin J,

MICELI Christopher M,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9321725 A2 19931028

Application: WO 93US3118 19930409 (PCT/WO US9303118)

Priority Application: US 92866049 19920409

Designated States: CA JP KR AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Fulltext Word Count: 14723

Fulltext Availability:

Detailed Description

Detailed Description

... are performed on a gray scale

30 image in order to convert it to a **halftone** image;

Figure 8 is a diagram showing the curves for  
expanding 1 and 4 **pixel** reconstructions, using the blue  
noise mask in accordance with the present invention, to  
include the...

...of gray levels;

Figure 9 is a diagram of a flow chart for obtaining  
aninverse@ **halftone** image from a **halftone** image in  
accordance with the present invention;

Figure 10 is a diagram of a flow...

...the gray image transmitted using the steps shown in Figure  
10 and for producing the desired **halftone** : image produced  
from the gray image of Figure 10;

Figure 12 is a diagram of a flow chart showing an  
20 alternative system for the **encoding** and decoding of digital  
images in accordance with the present invention; and  
Figure 13 is...

...showing the

use of transmitting and receiving facsimile devices for  
25 transmitting and receiving a **halftone** image in accordance  
with the present invention.

- 21

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Prior...

11/3,K/17 (Item 3 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00188828 \*\*Image available\*\*

**PROCESS FOR PROVIDING DIGITAL HALFTONE IMAGES WITH RANDOM ERROR DIFFUSION**  
**PROCEDE DE FORMATION D'IMAGE NUMERIQUE DEMI-TEINTE AVEC DIFFUSION D'ERREUR**  
**ALEATOIRE**

Patent Applicant/Assignee:

BOWERS IMAGING TECHNOLOGIES INC,

Inventor(s):

BOWERS Harry,

BOWERS John S,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9106172 A1 19910502  
Application: WO 90US5752 19901012 (PCT/WO US9005752)  
Priority Application: US 89931 19891016; US 90602 19900413  
Designated States: AT BE CH DE DK ES FR GB GR IT JP LU NL SE  
Publication Language: English  
Fulltext Word Count: 9824

Fulltext Availability:

Detailed Description  
Claims

Detailed Description

... sometimes referred to as spatial dithering,  
To apply error diffusion techniques to digital  
halftone printing, **gray - scale** values at detected **pixel**  
locations are binary coded, Typically, the binary  
**coding** threshold is 127, i.e., halfway between the  
minimum and maximum **gray - scale** values, The binary  
number I'lll', for instance! can be assigned to **pixel**  
locations where detected **gray - scale** values are less  
than 127, and the binary number 11011 can be assigned to  
**pixel** locations where detected **gray - scale** values are  
127 or more,  
As an example of binary **coding** for error  
diffusion in digital halftoning, a **pixel** location with  
a detected **gray - scale** value of 100 would be coded as a  
binary 11111, Similarly, a **pixel** location with a **gray**  
**scale** value of 145 would be coded as a binary 11011, In  
monochrome printing systems, a **pixel** location **encoded**  
as a binary I'lll' generally is black, and a **pixel** **encoded**  
as a binary 11011 generally is white.

The above-described coding techniques for  
digital halftoning...

Claim

... location, and  $E_i$  is  
the error value assigned to the  $i$ th pixel location;  
assigning revised **gray - scale** values to the  
selected neighbor pixels such that the revised **gray**  
**scale** values equal the detected **gray - scale** values plus  
the diffused **gray - scale** values; and  
retaining images for display on a selected  
medium by digital **halftone** image enhancement based upon  
intensity values of **pixel** locations that have been  
modified by error diffusion,  
4e Apparatus for image enhancement with error  
diffusion comprising:  
means for detecting **gray @ scale** values at  
preselected **pixel** locations in an image;  
means for determining upper and lower limits of  
a range function which depends on the detected **gray**  
**scale** values for each detected **gray - scale** value at the  
preselected **pixel** locations;  
means for selecting first and second values  
which are randomly located between the upper and lower  
limits of the range function for each detected **gray**  
**scale** value at the preselected **pixel** locations, and  
assigning a third error value for the preselected **pixel**  
location equal to its detected **gray - scale** value

multiplied by 1 minus the sum of the first of the selected randomly located...

...and the second of the selected randomly located values;  
means for determining if the detected **gray - scale** value at a preselected **pixel** location is less than a predetermined threshold value;  
means for **encoding** the **pixel** location as a binary zero if the detected **gray - scale** value at a preselected **pixel** location is less than a predetermined threshold value;  
means for assigning a first error value for the preselected **pixel** location equal to its detected **gray scale** value multiplied by the first of the selected randomly located values if the detected **gray - scale** value at a preselected **pixel** location is less than a predetermined threshold value;  
means for assigning a second error value for the preselected **pixel** location equal to its detected **gray scale** value multiplied by the second of the selected randomly located values if the detected **gray - scale** value at a preselected **pixel** location is less than a predetermined threshold value;  
means for determining if the detected **gray - scale** value at a preselected **pixel** location is greater than the threshold value;  
means for **encoding** the **pixel** location as a binary one if the detected **gray - scale** value at a preselected **pixel** location is greater than the threshold value;  
means for assigning a first error value for the preselected **pixel** location which equals the first of the selected randomly located values multiplied by a quantity equal to the detected **gray - scale** value less 255 if the detected **gray - scale** value at a preselected **pixel** location is greater than the threshold value;  
means for assigning a second error value for the preselected **pixel** location which equals the second of the selected randomly located values multiplied by a quantity equal to the detected **gray - scale** value less 255, and assigning a third error value for the preselected **pixel** location equal to its detected **gray scale** value less 255 multiplied by 1 minus the sum of the first of the selected randomly located values and the second of the selected randomly located values;  
if the detected **gray - scale** value at a preselected **pixel** location is greater than the threshold value;  
means for distributing the first and second assigned error values to at least three adjacent preselected **pixel** locations, one of which lies on the same line as the preselected **pixel** location and the other two of which are on an adjacent line for each preselected **pixel** location; and  
means for retaining images for display on a selected medium based upon values of the preselected **pixel** locations that have been **encoded** after distribution of the assigned error values.

5 An apparatus for digital halftoning with random...Ei is the error value assigned to the ith pixel location; means for assigning revised **gray - scale** values to the selected neighbor pixels such that the revised **gray - scale** values equal the detected **gray - scale** values plus the diffused **gray - scale** values; and means for retaining images for display on a selected medium by digital **halftone** image enhancement based upon intensity values of **pixel** locations that have been modified by error diffusion,

11/3,K/18 (Item 4 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00170784 \*\*Image available\*\*  
**DIGITAL HALF-TONING PROCESS WITH ERROR DIFFUSION**  
**PROCEDE NUMERIQUE DE TRAMAGE A DIFFUSION D'ERREURS**  
Patent Applicant/Assignee:  
BOWERS IMAGING TECHNOLOGIES INC,  
Inventor(s):  
BOWERS John S,  
BOWERS Harry,  
Patent and Priority Information (Country, Number, Date):  
Patent: WO 9004234 A1 19900419  
Application: WO 89US4581 19891013 (PCT/WO US8904581)  
Priority Application: US 88843 19881014  
Designated States: AT BE CH DE FR GB IT JP LU NL SE  
Publication Language: English  
Fulltext Word Count: 5030

Fulltext Availability:  
Detailed Description  
Claims

#### Detailed Description

... limits of  
the range function;  
if-the detected gray scale value at a pre  
selected **pixel** location is less than a predetermined  
threshold value, **encoding** the **pixel** location as a  
binary 0, assigning a first error value for the  
preselected **pixel** location equal to its detected **gray**  
**scale** value multiplied by the first of the selected  
randomly located values and assigning a second error  
value for the preselected **pixel** location equal to its  
detected **gray scale** value multiplied by the second of  
the selected randomly located values;  
if the detected **gray scale** value at a pre  
selected **pixel** location is greater than the threshold  
value, **encoding** the **pixel** location as a binary 1,  
assigning a-first error value for the preselected **pixel**  
location which equals the first of the selected  
randomly located values multiplied by a quantity equal  
to the detected **gray scale** value less 255, and assign  
ing a second error value for the preselected **pixel**  
location which equals the second of the selected  
randomly located values multiplied by a quantity equal

to the detected **gray scale** value less 255;  
then, for each preselected **pixel** location,  
propagating the first and second assigned error values  
to at least three adjacent preselected **pixel** locations,  
one of which lies on the same line as the preselected  
**pixel** location and the other two of which are on an  
adjacent line; and  
printing images by digital **half - tone** printing  
based upon values of the preselected **pixel** locations  
that have been **encoded** after distribution of the  
assigned error values  
In one particularly preferred embodiment, the  
lower limit...

...range function is between about 0  
and 0.2, and varies linearly with the detected **gray  
scale** value of a preselected **pixel** location. More  
particularly, the lower limit,  $w_{min}$ , of the range  
function preferably is determined by...

...limits of the range function;  
if the detected gray scale value at a pre@  
selected **pixel** location is less than a predetermined  
threshold value, **encoding** the **pixel** location as a  
binary 0, assigning a first error value for the  
preselected **pixel** location equal to its detected **gray  
scale** value multiplied by the first of the selected  
randomly located values and assigning a second error  
value for the preselected **pixel** location equal to its  
detected **gray scale** value multiplied by the second of  
the selected randomly located values;  
if the detected **gray scale** value at a pre@  
selected **pixel** location is greater than the threshold  
value, **encoding** the **pixel** location as a binary 1,  
assigning a first error value for the preselected **pixel**  
location which equals the first of the selected  
randomly located values multiplied by a quantity equal  
to the detected **gray scale** value less 255, and assign  
ing a second error value for the preselected **pixel**  
location which equals the second of the selected  
randomly located values multiplied by a quantity equal  
to the detected **gray scale** value less 255;  
then, for each preselected **pixel** location,  
distributing the first and second assigned error values  
to at least three adjacent preselected **pixel** locations,  
one of which lies on the same line as the preselected  
**pixel** location and the other two of which are on an  
adjacent line; and  
printing images by digital **half - tone** printing  
based upon values of the preselected **pixel** locations  
that have been **encoded** after distribution of the  
assigned error values.

In another aspect of the invention there is...limits of  
the range function;  
if the detected gray scale value at a pre@  
selected **pixel** location is less than a predetermined  
threshold value, **encoding** the **pixel** location as a  
binary 0, assigning a first error value for the

preselected **pixel** location equal to its detected **gray scale** value multiplied by the first of the selected randomly located values and assigning a second error value for the preselected **pixel** location equal to its detected **gray scale** value multiplied by the second of the selected randomly located values;  
 if the detected **gray scale** value at a preselected **pixel** location is greater than the threshold value, **encoding** the **pixel** location as a binary 1, assigning a first error value for the preselected **pixel** location which equals the first of the selected randomly located values multiplied by a quantity equal to the detected **gray scale** value less 255, and assigning a second error value for the preselected **pixel** location which equals the second of the selected randomly located values multiplied by a quantity equal to the detected **gray scale** value less 255;  
 then, for each preselected **pixel** location, propagating the first and second assigned error values 30% to at least three adjacent preselected **pixel** locations, one of which lies on the same line as the preselected **pixel** location and the other two of which are on an adjacent line; and  
 printing images by digital **half - tone** printing based upon values of the preselected **pixel** locations that have been **encoded** after distribution of the assigned error values.

Brief Description of the Drawing  
 Figure 1 is...

#### Claim

... limits of the range function;  
 if the detected **gray scale** value at a preselected **pixel** location is less than a predetermined threshold value, **encoding** the **pixel** location as a binary 0, assigning a first error value for the preselected **pixel** location equal to its detected **gray scale** value multiplied by the first of the selected randomly located values and assigning a second error value for the preselected **pixel** location equal to its detected **gray scale** value multiplied by the second of the selected randomly located values;  
 if the detected **gray scale** value at a preselected **pixel** location is greater than the threshold value, **encoding** the **pixel** location as a binary 1, assigning a first error value for the preselected **pixel** location which equals the first of the selected randomly located values multiplied by a quantity equal to the detected **gray scale** value less 255, and assigning a second error value for the preselected **pixel** location which equals the second of the selected randomly located values multiplied by a quantity equal to the detected **gray scale** value less 255;  
 then, for each preselected **pixel** location, distributing the first and second assigned error values to at least three adjacent preselected **pixel** locations, one of which lies on the same line as the preselected **pixel** location and the other two of which are on an

adjacent line; and  
printing images by digital **half @ tone** printing  
based upon values of the preselected **pixel** locations  
that have been **encoded** after distribution of the  
assigned error values.

2\* A digital half@toning process according to...

...Claim 4 wherein the lower limit of the range function  
varies linearly with the detected **gray scale** value of a  
preselected **pixel** location.

6v A digital half-toning process according to

Claim 5 wherein the lower limit...

...determined as follows:

wmin IZ-1281 x 0.2

128

where Z is the detected **gray scale** value at a preselected **pixel**  
location.

7e A digital half@toning process according to

Claim 5 wherein the upper limit detected **gray scale** value at a pre  
selected **pixel** locations

8\* A digital half@toning- process according to

Claim 1 wherein the two values which...

...3.

10\* A digital half-toning process with error

diffusion comprising the steps of:

detecting **gray scale** values at preselected **pixel**  
locations in an image;

for each detected **gray scale** value at the  
preselected **pixel** locations, determining upper and  
lower limits of a range function which generally  
linearly depends on the detected **gray scale** values and  
has upper and lower limits between 0 and 1, respec  
tively;

selecting first...

..randomly located between the upper and lower limits of  
the range function;

if the detected **gray scale** value at a pre  
selected **pixel** location is less than a predetermined  
threshold value, **encoding** the **pixel** location as a  
binary 0, assigning a first error value for the  
preselected **pixel** location equal to its detected **gray**  
**scale** value multiplied by the first of the selected  
randomly located values and assigning a second error  
value for the preselected **pixel** location equal to its  
detected **gray scale** value multiplied by the second of  
the selected randomly located values;

if the detected **gray scale** value at a pre@  
selected **pixel** location is greater than the threshold  
value, **encoding** the **pixel** location as a binary 1,  
assigning a first error value for the preselected **pixel**  
location which equals the first of the selected  
randomly located values multiplied by a quantity equal  
to the detected **gray scale** value less 255, and assign  
ing a second error value for the preselected **pixel**  
location which equals the second of the selected  
randomly located values multiplied by a quantity equal  
to the detected **gray scale** value less 255;  
then, for each preselected **pixel** location,

propagating the first and second assigned error values to at least three adjacent preselected **pixel** locations, one of which lies on the same line as the preselected **pixel** location and the other two of which are on an adjacent line; and printing images by digital **half @ tone** printing based upon values of the preselected **pixel** locations that have been **encoded** after distribution of the assigned error values.  
11o A digital half@toning process according to...

...Claim 11 wherein the lower limit of the range function varies linearly with the detected **gray scale** value of a preselected **pixel** location,  
13a A digital half-toning process according to Claim 12 wherein the lower limit...is determined as follows:  
1Z-1281  
 $W_{min} = 128 \times 0.6$   
where Z is the detected **gray scale** value at a preselected **pixel** location.  
14o A digital half@toning process according to Claim 12 wherein the upper limit...

...as follows:  
 $1128 @ Z1$   
 $w_{max} = 1 - 128 \times 0.6$   
where Z is the detected **gray scale** value at a preselected **pixel** location.  
15\* A digital half-toning process according to Claim 10 wherein the two values...

...as follows:  
 $w_{max} @ '1 \ 1128 - Z1 \times 0.6$   
128  
where Z is the detected **gray scale** value at a preselected pixel location.  
18 A digital half-toning process according to Claim...



Set	Items	Description
S1	37	AU=(SHAKED D? OR SHAKED, D?)
S2	373260	RESOLUTION? OR BITMAP? OR CONTONE? OR PIXEL OR PIXMAP OR R- ASTER
S3	1518412	IMAGE? ? OR PICTURE? OR PICTORIAL OR PICTORAL OR PHOTO? ? - OR PHOTOGRAPH? OR INDICIA OR INDICIUM
S4	351477	CODE OR ENCOD? OR CODING OR WATERMARK?
S5	6871	GRAY()SCAL? OR GRAYSCAL?
S6	2380359	SEGMENT? OR SECTION? ? OR REGION? ? OR AREA? ? OR CELL? ?
S7	2400	HALFTONE? OR HALF()TONE?
S8	20	S1 AND S3
S9	3	S8 AND S7
S10	201	S3 AND S5 AND S7
S11	30	S10 AND S4
S12	33	S9 OR S11
S13	27	S12 NOT PY>2000
S14	24	RD (unique items)

? show file

File 2:INSPEC 1969-2003/Nov W1  
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14/3,K/1 (Item 1 from file: 20)  
DIALOG(R)File 20:Dialog Global Reporter  
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10336959 (USE FORMAT 7 OR 9 FOR FULLTEXT)  
**Nikon Bundles Altamira Genuine Fractals With New Coolpix 990 Digital Camera; Scaling Software Enables High-Quality Enlargements of Digital Photographs**  
BUSINESS WIRE  
March 30, 2000  
JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 577

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... photographic quality images as scalable, reusable assets, which can be rendered to any size or **resolution** without sacrificing image quality. The plug-in allows Lossless or Visually Lossless **encoding** and provides three scaling options for quality vs. speed. In addition to RGB color mode...

14/3,K/2 (Item 2 from file: 20)  
DIALOG(R)File 20:Dialog Global Reporter  
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08445534 (USE FORMAT 7 OR 9 FOR FULLTEXT)  
**Research Corporation Technologies, Inc.'s \$800 Million-Plus Patent Infringement Lawsuit Against Hewlett-Packard Goes to Trial Today**  
PR NEWSWIRE  
November 29, 1999  
JOURNAL CODE: WPRW LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 1425

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... patent describes the Blue Noise Mask as "a method of and system for rendering a **halftone** image of a **gray scale image** by utilizing a pixel-by-pixel comparison of the **gray scale** image against a Blue Noise Mask." The technology is used in computer printers, fax machines, the graphic arts and printing industry, and other applications that use **halftone** (dot screen) methods to create **images** that give the human eye the impression of a continuous range of grey tones while...

14/3,K/3 (Item 3 from file: 20)  
DIALOG(R)File 20:Dialog Global Reporter  
(c) 2003 The Dialog Corp. All rts. reserv.  
08250864 (USE FORMAT 7 OR 9 FOR FULLTEXT)  
**LizardTech Brings High-Quality Images to Web**  
PR NEWSWIRE  
November 16, 1999  
JOURNAL CODE: WPRW LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 721

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... key features: -- Serves reproduction-quality images in a flash -- Quickly distributes multiresolution images -- Prints high **resolution**

images directly from standard Web browsers -- Supports CMYK, RGB and **grayscale** -- Allows single-source image management -- Uses visible **watermarking** for image security -- Requires no plug-ins -- Supports Windows NT, Linux and Solaris Web servers...

**14/3,K/4 (Item 4 from file: 20)**

DIALOG(R)File 20:Dialog Global Reporter  
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06964759 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Altamira Group Announces Support for Canto(R) Cumulus 5 By Offering File Format Support**

PR NEWSWIRE

August 31, 1999

JOURNAL CODE: WPRW LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 1038

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... delighted to be part of the release of Cumulus 5 and to integrate Altamira's **resolution** -independent files with Canto's asset management engine."

The full version of Altamira Genuine Fractals 2.0 PhotoPro **encodes** photographic quality images as scalable reusable assets, which can be rendered to any size or **resolution** without sacrificing image quality. The Photoshop plug-in allows Lossless or Visually Lossless **encoding** and provides three scaling options for quality versus speed. In addition to RGB color mode...

**14/3,K/5 (Item 5 from file: 20)**

DIALOG(R)File 20:Dialog Global Reporter  
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05499681 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Altamira Group's Genuine Fractals 2.0 Bundled With New EPSON Stylus(R) Photo 1200 Printer**

PR NEWSWIRE

May 27, 1999

JOURNAL CODE: WPRW LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 814

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... Adobe(R) Photoshop(R), is the only software on the market that is able to **encode** photographic quality images as scalable reusable assets, which can be rendered to any size or **resolution** without sacrificing image quality. The plug-in allows Lossless or Visually Lossless **encoding** and provides three scaling options for quality versus speed. In addition to RGB color mode...

**14/3,K/6 (Item 6 from file: 20)**

DIALOG(R)File 20:Dialog Global Reporter  
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04208004 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Ricoh Previews Print Controller Software for Popular Wide Format Digital Imaging System**

BUSINESS WIRE  
February 02, 1999  
JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 841

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... dpi) copy quality with a 32-level gray scale, auto paper roll selection, binding extension, **image** shift, mirror **image** , positive/negative reverse and text/ **halftone** mode, all of which enable a variety of printing options. Additionally, the RICOH FW7030D offers...

**14/3,K/7 (Item 7 from file: 20)**  
DIALOG(R)File 20:Dialog Global Reporter  
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03957991 (USE FORMAT 7 OR 9 FOR FULLTEXT)  
**Altamira Group Takes Top Honors: Genuine Fractals Printpro(TM) Wins  
MACWORLD 'Eddy Award' As Best Publishing Utility of 1998**  
PR NEWSWIRE  
January 08, 1999  
JOURNAL CODE: WPRW LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 472

(USE FORMAT 7 OR 9 FOR FULLTEXT)

Designed to work with Adobe Photoshop(R), Genuine Fractals PrintPro **encodes raster** images in "lossless" and "visually lossless" modes and features revolutionary scaling capabilities. Lossless **encoding** preserves the image perfectly for future use and produces the highest quality enlargements while visually...

**14/3,K/8 (Item 8 from file: 20)**  
DIALOG(R)File 20:Dialog Global Reporter  
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02950247  
**XANTE Announces New ScreenWriter 3 for Printing Quality Film Positives;  
Desktop Solution Makes ScreenPrinting Easy**  
BUSINESS WIRE  
September 28, 1998  
JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 1486

... with 600 x 600 dpi, upgradeable to 1200 x 1200 dpi, for superior line art, **halftone images** , and text. -- The ScreenWriter 3 prints on film and paper up to 13" x 35...

... panel or from Xante's Command Center application to receive the highest accuracy possible from **halftone images** . -- Custom Dot Gain Calibration lets screen printers use a densitometer and laser output to linearize...

... panel or from Xante's Command Center application to receive the highest accuracy possible from **halftone images** . Xante also supports the use of densitometers with Custom Dot Gain Calibration. This means screen...

... a densitometer and Xante's Command Center application to produce the highest accuracy possible from **halftone images** . Horizontal and Vertical

**Image** Control - Users can adjust **image** placement on media horizontally and vertically despite limitations set by an application. This feature helps...

**14/3,K/9 (Item 9 from file: 20)**

DIALOG(R)File 20:Dialog Global Reporter  
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02663990 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**XANTE Announces Breakthrough 4-Color Filmsetting Capabilities**

BUSINESS WIRE

September 01, 1998

JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 501

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... TM) (Xante's Accurate Calibration Technology) for dimensional accuracy, resolution enhancement for 2400 dpi capability, **halftone** calibration for precise color matching and **grayscale** calibration, and NEIT (Negative Enhanced Imaging Technology) for accurate film negative generation. Xante's patent...

**14/3,K/10 (Item 10 from file: 20)**

DIALOG(R)File 20:Dialog Global Reporter  
(c) 2003 The Dialog Corp. All rts. reserv.

01727709 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**XANTE Announces New Platemaker 3 Computer-to-Plate System With Up to 2400 dpi and 13" X 35.5" Output; A New Generation Of Desktop Platemaking**

BUSINESS WIRE

May 26, 1998 13:25

JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 1496

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... a densitometer and Xante's Command Center application to produce the highest accuracy possible from **halftone images**.

I/O Spooler: The built-in spooler support permits you to download multiple jobs into...

**14/3,K/11 (Item 11 from file: 20)**

DIALOG(R)File 20:Dialog Global Reporter  
(c) 2003 The Dialog Corp. All rts. reserv.

01727666 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**XANTE Announces New Accel-a-Writer 3 Printer Series -2-**

BUSINESS WIRE

May 26, 1998 13:17

JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 890

... a densitometer and Xante's Command Center application to receive the highest accuracy possible from **halftone images**.

**14/3,K/12** (Item 12 from file: 20)  
DIALOG(R)File 20:Dialog Global Reporter  
(c) 2003 The Dialog Corp. All rts. reserv.

01727664 (USE FORMAT 7 OR 9 FOR FULLTEXT)  
**XANTE Announces New Accel-a-Writer 3 Printer Series Featuring Up to 2400  
dpi, 13" Output, and 20 ppm**  
BUSINESS WIRE  
May 26, 1998 13:17  
JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 1530

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... gives users precise control over horizontal and vertical dimensional accuracy ensuring output of unmatched quality. **Halftone Calibration Technology** lets users calibrate the midtones of **halftone images**. This compensates for the loss of detail that often occurs in dark **photos** or from higher line screen printing, allowing images to look richer. Xante's Enhanced Screening...

... Command Center Software and Densitometer Support, users can achieve the highest accuracy possible from their **halftone images**. This ability to calibrate, or linearize, **grayscale**s means users can experience ten times more accurate **halftones** than with similar products on the market. NEIT and Duplexing are offered as options on...

**14/3,K/13** (Item 13 from file: 20)  
DIALOG(R)File 20:Dialog Global Reporter  
(c) 2003 The Dialog Corp. All rts. reserv.

01374961  
**Java Support for Announced for IBM Image Plus Documents and DICOM Medical Images**  
BUSINESS WIRE  
April 14, 1998 9:14  
JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 256

...for the many developers now creating JAVA applications that require imaging of TIFF or other **raster** images. "The overwhelming demand and need for high performance, mature **code** base Java components has surprised even us," stated Simon Wieczner, CEO of Snowbound. "We've...

**14/3,K/14** (Item 1 from file: 613)  
DIALOG(R)File 613:PR Newswire  
(c) 2003 PR Newswire Association Inc. All rts. reserv.

00257490 20000202SFW012 (USE FORMAT 7 FOR FULLTEXT)  
**Lizardtech Brings High-Quality Images to Internet Consumers**  
PR Newswire  
Wednesday, February 2, 2000 08:03 EST  
JOURNAL CODE: PR LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
DOCUMENT TYPE: NEWSWIRE  
WORD COUNT: 768

...key features:  
-- Serves reproduction-quality images in a flash

- Quickly distributes multiresolution images
- Prints high- **resolution** images directly from standard Web browsers
- Supports CMYK, RGB and **grayscale** images
- Allows single-source image management
- Uses visible **watermarking** for image security
- Requires no plug-ins to view images in standard Web browsers
- Available...

**14/3,K/15 (Item 2 from file: 613)**  
DIALOG(R)File 613:PR Newswire  
(c) 2003 PR Newswire Association Inc. All rts. reserv.

00257484 20000202SFW011 (USE FORMAT 7 FOR FULLTEXT)  
**Consumers Enjoy Lizardtech Technology Through Web-Enabled Photography**  
PR Newswire  
Wednesday, February 2, 2000 08:03 EST  
JOURNAL CODE: PR LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
DOCUMENT TYPE: NEWSWIRE  
WORD COUNT: 947

...key features:

- Serves reproduction-quality images in a flash
- Quickly distributes multiresolution images
- Prints high- **resolution** images directly from standard Web browsers
- Supports CMYK, RGB and **grayscale** images
- Allows single-source image management
- Uses visible **watermarking** for image security
- Requires no plug-ins to view images in standard Web browsers
- Available...

**14/3,K/16 (Item 1 from file: 624)**  
DIALOG(R)File 624:McGraw-Hill Publications  
(c) 2003 McGraw-Hill Co. Inc. All rts. reserv.

0432757  
**A Move Toward the Paperless Office**  
M1. □M0 November, 1992□M1. □M0; Pg 68; M1. □M0 Vol. 17, No.12□M1. □M0  
Section Heading: News: First Impressions  
Word Count: 566 \*Full text available in Formats 5, 7 and 9\*

BYLINE:  
Anne Fischer Lent

TEXT:  
...the menu. I also had the choice of line art, number of gray levels, and **half - tones** . The scanned **image** was stored in TIFF format, and I had the choice of compressed, decompressed, and 200...

**14/3,K/17 (Item 2 from file: 624)**  
DIALOG(R)File 624:McGraw-Hill Publications  
(c) 2003 McGraw-Hill Co. Inc. All rts. reserv.

0366366  
**Document Image Processing: An Emerging Industry for the 1990s**  
Standard & Poor's Emerging & Special Situations May 17, 1991; Pg 4; Vol.  
11, No. 5  
Journal Code: ESS ISSN: 0882-5440

Section Heading: Segment discussion

Word Count: 3,291 \*Full text available in Formats 5, 7 and 9\*

TEXT:

...pixels, much the same way as an image on a television screen is divided. Each **pixel** is then scanned5 Segment discussion optically for brightness, and represented as a value in binary **code**. In the most simple system, "0" would represent white and "1" would represent black. Of course, **gray scale** and color makes the process quite a bit more complicated. Also, the location on the document of the **pixel**, or its address, has to be recorded as well. In general, the number of pixels...

**14/3,K/18 (Item 1 from file: 810)**  
DIALOG(R)File 810:Business Wire  
(c) 1999 Business Wire . All rts. reserv.

0595908 BW0052

**LUMINA OFFICE PRODUCTS: Lumina Office Products Introduces \$299 Multifunction Full-Page Color Scanner; ColorScan 3000 Features High Resolution 24-Bit Color, Automatic Document Feeder, Boardless Interface**

June 18, 1996

Byline: Business Editors & Computer Writers

...The product is TWAIN and ISIS compliant, enabling the easy capture of a variety of **images** including 24-bit color, 256 **grayscale**, 64 gray shades for **halftone**, and binary line art, from within most popular desktop publishing, word processing and graphics applications...

**14/3,K/19 (Item 2 from file: 810)**  
DIALOG(R)File 810:Business Wire  
(c) 1999 Business Wire . All rts. reserv.

0547203 BW1221

**XANTE CORP 2: XANTE announces aggressively priced high res laser printer with XANTE'S accurate calibration technology**

January 10, 1996

Byline: Business Editors/Computer Writers

...s 100-sheet fold down tray.  
The Accel-a-Writer 8300 also supports XANTE's **Halftone Calibration Technology**, enabling users to adjust the gamma curve of scanned **images**, **gray scales**, and other **halftones** when printing. This technology addresses a common problem of images appearing too dark when printing...

**14/3,K/20 (Item 3 from file: 810)**  
DIALOG(R)File 810:Business Wire  
(c) 1999 Business Wire . All rts. reserv.

0491823 BW1237



**XANTE CORPORATION: Xante announces price reduction on 1200 x 1200 DPI  
Accel-a-Writer 812 Laser Printer**

June 05, 1995

Byline: RAM Old New Price

...to hold as many as 500 sheets.

The Accel-a-Writer 812 supports Xante's **Halftone** Calibration Technology, enabling users to adjust the gamma curve of scanned **images**, **gray scales**, and other **halftones** when printing. This feature enables users to calibrate the lightness of **halftone** images, bringing out detail that can be lost when printing at higher line screens or...

14/3,K/21 (Item 4 from file: 810)  
DIALOG(R)File 810:Business Wire  
(c) 1999 Business Wire . All rts. reserv.

0488675 BW1174

**XANTE CORP: Xante announces first 1800 x 1800 dpi Adobe PostScript Laser  
Printer**

May 23, 1995

Byline: -- The LaserPress 1800 features Adobe(TM) PostScript(TM)  
Level

...is perfect for producing  
camera-ready text and graphics."

The LaserPress 1800 supports Xante's **Halftone** Calibration Technology, enabling users to adjust the gamma curve of scanned **images**, **gray scales**, and other **halftones** when printing. This feature enables users to calibrate the midtones of **halftone** images, bringing out detail that can be lost when printing at higher line screens or...

...parts of the image which are intended  
to print at completely black or white unaffected. **Halftones** and **gray scale images** up to 150 lines per inch can be achieved.

Paper Handling -- The LaserPress 1800 supports...

14/3,K/22 (Item 5 from file: 810)  
DIALOG(R)File 810:Business Wire  
(c) 1999 Business Wire . All rts. reserv.

0465266 BW1060

**XANTE CORP 2: Xante announces the first high resolution laser printer with  
Adobe PostScript for the Japanese market**

February 20, 1995

Byline: SUMMARY

...through the 100-sheet fold

down tray.

The Accel-a-Writer 8200J supports Xante's **Halftone** Calibration Technology, enabling users to adjust the gamma curve of scanned **images** , **gray scales** , and other **halftones** . This feature allows users to calibrate **halftone** images, bringing out detail that can be lost when printing at higher line screens or...

**14/3,K/23 (Item 6 from file: 810)**  
DIALOG(R)File 810:Business Wire  
(c) 1999 Business Wire . All rts. reserv.

0453830 BW1099

**XANTE CORP: XANTE announces Accel-a-Writer 812 - new low cost, high resolution laser printer with Adobe PostScript**

January 03, 1995

Byline: SUMMARY

...to hold as many as 500 sheets.

The Accel-a-Writer 812 supports XANTE's **Halftone** Calibration Technology, enabling users to adjust the gamma curve of scanned **images** , **gray scales** , and other **halftones** when printing. This feature enables users to calibrate the lightness of **halftone** images, bringing out detail that can be lost when printing at higher line screens or...

**14/3,K/24 (Item 7 from file: 810)**  
DIALOG(R)File 810:Business Wire  
(c) 1999 Business Wire . All rts. reserv.

0429160 BW1165

**XANTE CORP: XANTE announces the 1200-DPI LaserPress 1200 with Halftone Capabilities up to 120 lines per inch**

September 12, 1994

Byline: Business Editors

...to satisfy the printing needs of this key market."

The LaserPress 1200 supports XANTE's **Halftone** Calibration Technology, enabling users to adjust the gamma curve of scanned **images** , **gray scales** , and other **halftones** when printing. This technology, coupled with the superior imaging system provided by this printer, enables...

...parts of the image which are intended to print at completely black or white unaffected. **Halftones** and **gray scale images** up to 120 lines per inch can be achieved.

Paper Handling -- The LaserPress 1200 supports...

**14/3,K/25 (Item 8 from file: 810)**  
DIALOG(R)File 810:Business Wire  
(c) 1999 Business Wire . All rts. reserv.

0419400 BW0826

**XANTE CORP: Xante announces new 16 page-per-minute, high resolution laser printer with Adobe PostScript**

July 25, 1994

Byline: Business Editors/Computer Writers

...down tray.

The Accel-a-Writer 8200 will be the first printer supporting XANTE's **halftone** Calibration Technology, enabling users to adjust the gamma curve of scanned **images**, **gray scales** and other **halftones** when printing. This technology addresses a common problem of images appearing too dark when printing...

**14/3,K/26 (Item 9 from file: 810)**

DIALOG(R)File 810:Business Wire

(c) 1999 Business Wire . All rts. reserv.

0314490 BW644

**MICROSOFT WINDOWS: Microsoft announces Windows Printing System; provides fast, easy-to-use printing solution for LaserJet II/III users**

January 18, 1993

Byline: Business Editors & Computer/High-Tech Writers

...the mouse, the user can set printer resolution, brightness and contrast and adjust settings for **grayscale images** and **halftones**. The system adjusts the screen sample to match each change and updates the estimated printing...

**14/3,K/27 (Item 10 from file: 810)**

DIALOG(R)File 810:Business Wire

(c) 1999 Business Wire . All rts. reserv.

0164088 BW091

**SUPERMAC TECH: Supermac's SuperLaserSpool first spooling solution for HP DeskWriter printer**

February 19, 1990

Byline: Business Editors/Computer Writers

...find the following additional features in 2.02: enhanced LaserWriter driver 6.0 compatibility (for **gray - scale images** and **half tones**), fractional font support, print buffer sizes up to 1024K bytes to image complex documents, and...

**14/3,K/28 (Item 11 from file: 810)**

DIALOG(R)File 810:Business Wire  
(c) 1999 Business Wire . All rts. reserv.

0099695 BW756

**APPLE COMPUTER 2: Apple introduces Apple Scanner**

August 10, 1988

Byline: Business Editors

...Scanner, an optical image scanner that strengthens customers ability to integrate high-quality line art, **halftones** and **gray scale images** into Macintosh applications.

The Apple Scanner system comprises a flatbed scanning device, AppleScan software, and...

...interface for high-speed data transfer, the Apple Scanner is capable of scanning line art, **halftones** and **gray scale images** at resolutions up to 300 dots per inch (dpi). **Gray scale** can be captured in 4bit/16 levels per scanned pixel.

The included AppleScan software offers...

**14/3,K/29 (Item 1 from file: 813)**

DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0925354 NYF052

**BANCTEC ANNOUNCES RELEASE OF UNIQUE FEATURES TO UNIVERSAL TRANSPORT PRODUCT LINE**

DATE: March 15, 1996 12:34 EST WORD COUNT: 372

...of North American Operations at BancTec, states, "Not only has the UT offered the only **gray scale** imaging capabilities available to the community bank market, but it now also provides users with sophisticated windowing options at variable **resolutions** to best meet the customer's application processing and image storage requirements."

The **gray scale** and power **encode** features are a continuation of BancTec's roll-out of the UT product line. To...

**14/3,K/30 (Item 2 from file: 813)**

DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0923766 SESP047

**LEAD TECHNOLOGIES, INC. ANNOUNCES SUPPORT FOR MICROSOFT(R)'S ACTIVEX(TM) ARCHITECTURE**

DATE: March 12, 1996 07:43 EST WORD COUNT: 812

...edge & line detection, mosaic, hue & saturation, combine, histogram equalize, gamma correction and intensity detection, shear, **grayscale**, **halftone**, auto-deskew, despeckle

and more) in much the same way that they function in a...

**14/3,K/31 (Item 3 from file: 813)**  
DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0838946

**NOVELL ANNOUNCES HEWLETT-PACKARD SCANNING FUNCTIONALITY FOR APPWARE**

DATE: July 11, 1995 07:22 E.T. WORD COUNT: 837

...can access SCL with a fully visual tool and utilize scanning features such as color, **resolution**, scaling, brightness and contrast in their application without having to understand the complexities of SCL. The ScanJet ALM delivers black and white, dithered, 256 level **grayscale** and 24-bit color data.

"Developers using this ALM and AppWare can deliver solutions that...

**14/3,K/32 (Item 4 from file: 813)**  
DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0676900

MN002

**VARITRONICS REPORTS SALES AND EARNINGS FOR ITS FISCAL 1994 SECOND QUARTER**

DATE: February 16, 1994 08:29 EST WORD COUNT: 721

...resolution of the new ProImage offers enhanced capabilities over Varitronics' earlier generation PosterPrinters. With its **gray scale** scanning capability, **photographs** (color, black & white, and **half - tones**) can be enlarged with remarkable clarity. Plus, for more variation, the ProImage is equipped with...

**14/3,K/33 (Item 5 from file: 813)**  
DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0636702

SJ005

**APPLE PRINTER DRIVER UPDATE AVAILABLE FOR STYLEWRITER, PERSONAL LASERWRITER  
LS PRINTERS**

DATE: October 1, 1993 08:33 EDT WORD COUNT: 430

...Apple's PostScript-based laser printers and its newest GrayShare-based printers.

Grayscale printing:

Printing **halftone images** is now available for Macintosh 68020 and above systems without the expense of purchasing an...

**14/3,K/34 (Item 6 from file: 813)**  
DIALOG(R)File 813:PR Newswire

(c) 1999 PR Newswire Association Inc. All rts. reserv.

0433739 SJ002  
**CAERE CORP. ANNOUNCES NEW, ADVANCED CHARACTER RECOGNITION TECHNOLOGY**

DATE: January 13, 1992 08:04 EST WORD COUNT: 1,091

...editing tools. The Graphic Editor also features Caere's proprietary LaserGray(TM) technology, which prints **halftones** that resemble high-quality **photographs**.

In addition to Caere's AnyPage, OmniPage Professional is also the first to support HP...

**14/3,K/35 (Item 7 from file: 813)**  
DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0403052 SJ002  
**NEW IBM LASERPRINTERS OFFER 600 X 600 DPI RESOLUTION**

DATE: September 30, 1991 09:03 EDT WORD COUNT: 710

...by printing more definitively the intended outline and shape of a character or typeface. For **image** printing, they offer improved **gray scaling** and clearer **halftone** usually associated with camera-ready output.

There are four models in the 4029 Series, ranging...

**14/3,K/36 (Item 8 from file: 813)**  
DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0403023 SD004B  
**CAERE INTRODUCES TYPIST PLUS GRAPHICS FOR THE PC; MULTIFUNCTION HAND-HELD SCANNER EXTENDS CAPABILITIES TO INCLUDE BOTH TEXT AND IMAGES**

DATE: October 1, 1991 08:06 EDT WORD COUNT: 629

...Editor also includes Caere's proprietary Laser Gray(TM) technology, which allows users to print **halftones** that look just like high-quality **photographs**.

Traditional OCR Quality

Typist Plus Graphics incorporates the same, award-winning hardware design as the...

**14/3,K/37 (Item 9 from file: 813)**  
DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0403021 SJ004  
**CAERE CORPORATION ANNOUNCES OMNIPAGE PROFESSIONAL FOR THE MACINTOSH; OCR SOFTWARE FIRST TO OFFER ADVANCED RECOGNITION TOOLS**

DATE: October 1, 1991

08:03 EDT

WORD COUNT: 1,179

...Graphic Editor

also includes Caere's proprietary LaserGray(TM) technology, which allows users to print **halftones** that resemble high-quality **photographs** .

System 7 Savvy

As the only OCR software that is System 7 savvy, OmniPage Professional...

**14/3,K/38 (Item 10 from file: 813)**

DIALOG(R)File 813:PR Newswire

(c) 1999 PR Newswire Association Inc. All rts. reserv.

0398970

SJ001

**CAERE CORP. ANNOUNCES OMNIPAGE PROFESSIONAL 2.0 FOR THE PC; FIRST OCR SOFTWARE TO IMPLEMENT ACCUPAGE FROM HEWLETT-PACKARD**

DATE: September 16, 1991

08:34 EDT

WORD COUNT: 1,009

...Graphic Editor

also includes Caere's proprietary LaserGray(TM) technology, which allows users to print **halftones** that resemble high-quality **photographs** .

WYSIWYS Text Editing

OmniPage Professional 2.0 also has significantly expanded text editing capabilities. Caere...

**14/3,K/39 (Item 11 from file: 813)**

DIALOG(R)File 813:PR Newswire

(c) 1999 PR Newswire Association Inc. All rts. reserv.

0391730

SE003

**ALDUS SHIPS ALDUS PERSONAL PRESS 1.01 WITH SYSTEM 7.0 COMPATIBILITY**

DATE: August 14, 1991

09:31 EDT

WORD COUNT: 569

...angle -- by

using the mouse or by numerically specifying the angle of rotation.

And advanced **halftone** capabilities optimize **grayscale image** output to any black-and-white printer, including those without PostScript capability.

Pricing and Availability...

**14/3,K/40 (Item 12 from file: 813)**

DIALOG(R)File 813:PR Newswire

(c) 1999 PR Newswire Association Inc. All rts. reserv.

0389644

SJ001A

**CAERE CORP. ANNOUNCES 'TYPIST PLUS GRAPHICS' HAND-HELD SCANNER FOR THE MACINTOSH; LEADING HAND-HELD SCANNER NOW EDITS TEXT AND GRAPHICS**

DATE: August 6, 1991

08:35 EDT

WORD COUNT: 556

...The Graphic Editor also includes Caere's proprietary LaserGray technology, which allows users to print **halftones** that look just like high-quality **photographs** .

Fast, Accurate Scanning

Like other popular Caere products, including the original Typist and the firm...

**14/3,K/41** (Item 13 from file: 813)  
DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0375471 CH002  
**JBIG TO PROVIDE COMPRESSION STANDARD FOR IMAGE STORAGE, DISPLAY AND FACSIMILE**

DATE: June 3, 1991 12:02 EDT WORD COUNT: 699

...is reached. JBIG's compression ratios exceed G4's by 2 to 30 times on **gray scale images** rendered with **halftone** or dithering and by 1.1 to 1.5 times on scanned text and line...

...planar basis for both sequential and progressive delivery is also included. The JBIG bit-plane **encoding** technique performs well over a wide range of bits-per- **pixel** . Certain applications, such as medical images, are particularly suitable for JBIG because of their **resolution** and lossless requirements. **Gray scale** images or bilevel images with color markup overlays are other examples of images that would...

**14/3,K/42** (Item 14 from file: 813)  
DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0327010 LA001  
**INFORMATION INTERNATIONAL INC. ANNOUNCES OPI SUPPORT LINK FOR POSTSCRIPT INTERPRETER**

DATE: December 5, 1990 12:04 EST WORD COUNT: 535

...I publishing system, offering a fast, high-quality method of electronically merging quality color and **halftones** , eliminating the need for manual stripping."

During publication production, a **grayscale TIFF image** for screen display is generated from the high-resolution triple-I electronic photo image. The...

...such as DDES or Scitex Handshake. During PostScript file processing using OPI, the low-resolution **grayscale TIFF images** are automatically replaced by their corresponding fully compensated high-resolution triple-I **halftones** .

"From the page design point-of-view, nothing changes," Naclerio noted. "The user makes up..."



**14/3,K/43** (Item 15 from file: 813)  
DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0197983 LA005  
**LOUISVILLE COURIER-JOURNAL SELECTS ADVANCED DISPLAY AD MAKEUP SYSTEM FROM  
TRIPLE-I**

DATE: September 1, 1989 11:06 E.T. WORD COUNT: 580

...of ad templates, line art, and photos.  
The CCD InfoScanner is capable of capturing color **photos** and colored  
art to create black-and-white **halftones** or separate art layers.  
Triple-I's ad production system replaces seven-year-old Raycomp...

**14/3,K/44** (Item 16 from file: 813)  
DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0183724 NY002  
**NEWEST XEROX FACSIMILE MODEL OFFERS SUPERIOR IMAGE QUALITY**

DATE: July 12, 1989 09:06 E.T. WORD COUNT: 347

...plots  
and complex charts.

In addition, the 7012 can scan and print images using a **gray scale**  
of 16 levels, allowing for a wide range of contrast in the reproduction  
of **photographs** , **half - tones** , logos and other shaded **images** .

The 7012 also features both automatic and user-adjustable contrast  
settings. The user-adjustable control...

Set	Items	Description
S1	0	AU=(SHAKED D? OR SHAKED, D?)
S2	678201	RESOLUTION? OR BITMAP? OR CONTONE? OR PIXEL OR PIXMAP OR R- ASTER
S3	2929060	IMAGE? ? OR PICTURE? OR PICTORIAL OR PICTORAL OR PHOTO? ? - OR PHOTOGRAPH? OR INDICIA OR INDICIUM
S4	1166977	CODE OR ENCOD? OR CODING OR WATERMARK?
S5	23683	GRAY()SCAL? OR GRAYSCAL?
S6	8035782	SEGMENT? OR SECTION? ? OR REGION? ? OR AREA? ? OR CELL? ?
S7	9103	HALFTONE? OR HALF()TONE?
S8	11940	S3(S)S5
S9	712	S8(15N)S7
S10	51	S9(15N)(S4 OR S6)
S11	543	S4(S)S5
S12	152	S11(25N)(S7 OR S2)
S13	198	S10 OR S12
S14	182	S13 NOT PY>2000
S15	130	RD (unique items)

? show file

File 9:Business & Industry(R) Jul/1994-2003/Nov 13  
(c) 2003 Resp. DB Svcs.

File 15:ABI/Inform(R) 1971-2003/Nov 14  
(c) 2003 ProQuest Info&Learning

File 16:Gale Group PROMT(R) 1990-2003/Nov 13  
(c) 2003 The Gale Group

File 148:Gale Group Trade & Industry DB 1976-2003/Nov 14  
(c)2003 The Gale Group

File 160:Gale Group PROMT(R) 1972-1989  
(c) 1999 The Gale Group

File 275:Gale Group Computer DB(TM) 1983-2003/Nov 13  
(c) 2003 The Gale Group

File 621:Gale Group New Prod.Annou.(R) 1985-2003/Nov 14  
(c) 2003 The Gale Group

File 636:Gale Group Newsletter DB(TM) 1987-2003/Nov 13  
(c) 2003 The Gale Group

14/5/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2003 Institution of Electrical Engineers. All rts. reserv.

6841836 INSPEC Abstract Number: B2001-03-7510-059, C2001-03-7330-377

**Title: Hadamard-based image decomposition and compression**

Author(s): Valova, I.; Kosugi, Y.

Author Affiliation: Tokyo Inst. of Technol., Yokohama, Japan

Journal: IEEE Transactions on Information Technology in Biomedicine  
vol.4, no.4 p.306-19

Publisher: IEEE,

Publication Date: Dec. 2000 Country of Publication: USA

CODEN: ITIBFX ISSN: 1089-7771

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Material Identity Number: G101-2001-001

U.S. Copyright Clearance Center Code: 1089-7771/2000/\$10.00

Document Number: S1089-7771(00)02132-4

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P); Theoretical (T)

**Abstract:** We develop a general algorithm for decomposition and compression of **grayscale images**. The decomposition can be expressed as a functional relation between the original **image** and the Hadamard waveforms. The dynamic adaptive clustering procedure incorporates potential functions as a similarity measure for clustering as well as a reclustering phase. The latter is a multi-iteration, convergent procedure which divides the inputs into nonoverlapping clusters. These two techniques allow us to efficiently store and transmit a class of **half - tone medical images** such as magnetic resonance imaging (MRI) of the human brain. Due to the redundant **image** structure of MRI, obtained after the decomposition and clustering, almost half of the **image** can be omitted all together. Naturally, the compression rates for this specific type of **grayscale image** are increased greatly. A run-length **coding** is performed in order to compress further the retained information from the first two steps. Although all the techniques applied are simple, they represent an efficient way to compress **grayscale images**. The algorithm exhibits a performance which is competitive and often outperforming some of the methods reported in the literature. (40 Refs)

Subfile: B C

Descriptors: biomedical MRI; data compression; Hadamard transforms; **image coding**; medical **image** processing; neural nets; runlength codes

Identifiers: Hadamard-based **image** decomposition; **grayscale image** compression; Hadamard waveforms; dynamic adaptive clustering procedure; similarity measure; clustering; reclustering; multi-iteration convergent procedure; **half - tone medical images**; magnetic resonance imaging; human brain; MRI; run-length **coding**; neural network

Class Codes: B7510 (Biomedical measurement and imaging); B6120B (Codes); B6135C (Image and video coding); B0290X (Integral transforms in numerical analysis); C7330 (Biology and medical computing); C5260B (Computer vision and image processing techniques); C4188 (Integral transforms in numerical analysis); C5290 (Neural computing techniques); C1260S (Signal processing theory)

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14/5/2 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

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6754867 INSPEC Abstract Number: B2000-12-6135C-123, C2000-12-5260B-253

**Title: Inverse error diffusion using table look-up and vector**

**quantization: a novel scheme for low bit rate**

Author(s): Dujmic, H.; Rozic, N.; Ursic, J.  
Author Affiliation: Split Univ., Croatia  
Conference Title: 2000 IEEE International Conference on Acoustics, Speech, and Signal Processing. Proceedings (Cat. No.00CH37100) Part vol.4 p.1899-902 vol.4

Publisher: IEEE, Piscataway, NJ, USA

Publication Date: 2000 Country of Publication: USA 6 vol. lxxx+3906 pp.

ISBN: 0 7803 6293 4 Material Identity Number: XX-2000-01777

U.S. Copyright Clearance Center Code: 0 7803 6293 4/2000/\$10.00

Conference Title: Proceedings of 2000 International Conference on Acoustics, Speech and Signal Processing

Conference Sponsor: IEEE; Signal Process. Soc

Conference Date: 5-9 June 2000 Conference Location: Istanbul, Turkey

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T); Experimental (X)

Abstract: This paper considers inverse error diffusion and data compression of binary error diffused **images** using table look-up and vector quantization (VQ). The **encoding** process needs a table look-up which transforms **half - toned images** to a set of codewords. The decoding process requires table look-up and low pass filtering. Using the proposed scheme the reconstructed **gray - scale image** is stored in a compressed form. Also, the error diffused **image** can be compressed in the **gray - scale** domain. Our method integrates the processes of inverse halftoning and compression and is useful when error diffusion halftoning algorithm is applied. The proposed scheme outperforms, for low bit rate (0.25 bpp to 0.5 bpp), similar existing techniques and is of low computational complexity. (12 Refs)

Subfile: B C

Descriptors: decoding; **image coding** ; inverse problems; table lookup; vector quantisation

Identifiers: inverse error diffusion; table look-up; vector quantization; low bit rate **coding** ; data compression; binary error diffused **images** ; VQ ; **image** compression; **image coding** ; **half - toned images** ; codewords ; **encoding** process; decoding process; low pass filtering; reconstructed **gray - scale image** ; **gray - scale** domain; inverse halftoning; low computational complexity

Class Codes: B6135C (Image and video coding); C5260B (Computer vision and image processing techniques)

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14/5/3 (Item 3 from file: 2)

DIALOG(R)File 2:INSPEC

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6561480 INSPEC Abstract Number: A2000-10-4230-024, B2000-05-6135C-108

Title: Design of "Moire lock" for reconstructing 2D images

Author(s): Ha Yonggang; Ha Liuzhu; Wang Yongtian; Huo Guilin

Author Affiliation: Dept. of Optoelect., Beijing Inst. of Technol., China

Journal: Chinese Journal of Lasers vol.A26, no.9 p.829-32

Publisher: Science Press,

Publication Date: 20 Sept. 1999 Country of Publication: China

CODEN: ZHJIDO ISSN: 0258-7025

SICI: 0258-7025(19990920)A26:9L.829:DTLR;1-7

Material Identity Number: E875-1999-012

Language: Chinese Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: Presents the steps of reconstructing a 2-dimensional **grayscale**

**image** using the Moire technique. First, the 2D **image** was **encoded** with a **halftone** screen and turned into a **halftone** -screen **image**  $f/\text{sub } A/(u,v)$ ; secondly the **image**  $f/\text{sub } A/$  and  $1-f/\text{sub } A/$  (the reversed **image** of  $f/\text{sub } A/$ ) were **encoded** by two gratings respectively, while keeping the frequencies of the two gratings the same and the phase difference being  $\pi$ . The angle between the **encoding** directions of the first and second steps is set to 45 degrees so that the noise of the longitudinal Moire fringes can be avoided. This technique can be applied for anti-counterfeit purposes. (5 Refs)

Subfile: A B

Descriptors: diffraction gratings; **image coding**; **image** reconstruction; moire fringes; optical design techniques; optical **images**; optical information processing; optical noise

Identifiers: Moire lock; design; 2D **images**; **image** reconstruction; 2-dimensional **grayscale image**; Moire technique; 2D **image**; **encoding**; **halftone** screen; **halftone** -screen **image**; **image**; reversed **image**; gratings; phase difference; **encoding** directions; noise; longitudinal Moire fringes; anti-counterfeit purposes

Class Codes: A4230V (Image processing and restoration); A4215E (Optical system design); A4225H (Optical interference and speckle); A0760L (Optical interferometry); A4280F (Gratings, echelles); B6135C (Image and video coding)

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14/5/4 (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

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6519022 INSPEC Abstract Number: B2000-04-6135C-142, C2000-04-5260B-268

**Title:** Halftone coding with JBIG2

**Author(s):** Martins, B.; Forchhammer, S.

**Author Affiliation:** Dept. of Telecommun., Tech. Univ., Lyngby, Denmark

**Journal:** Journal of Electronic Imaging vol.9, no.1 p.52-60

**Publisher:** SPIE-Int. Soc. Opt. Eng,

**Publication Date:** Jan. 2000 **Country of Publication:** USA

**CODEN:** JEIME5 **ISSN:** 1017-9909

**SICI:** 1017-9909(200001)9:1L.52:HCWJ;1-Z

**Material Identity Number:** P618-2000-001

**U.S. Copyright Clearance Center Code:** 1017-9909/2000/\$15.00

**Document Number:** S1017-9909(90)00301-4

**Language:** English **Document Type:** Journal Paper (JP)

**Treatment:** Theoretical (T); Experimental (X)

**Abstract:** The emerging international standard for compression of bilevel **images** and bilevel documents, JBIG2, provides a mode dedicated for lossy **coding** of **halftones**. The **encoding** procedure involves descreening of the bilevel **image** into gray scale, **encoding** of the **gray - scale image**, and construction of a **halftone** pattern dictionary. The decoder first decodes the **gray - scale image**. Then for each **gray - scale** pixel the decoder looks up the corresponding **halftone** pattern in the dictionary and places it in the reconstruction bitmap at the position corresponding to the **gray - scale** pixel. The **coding** method is inherently lossy and care must be taken to avoid introducing artifacts in the reconstructed **image**. We describe how to apply this **coding** method for **halftones** created by periodic ordered dithering, by clustered dot screening (offset printing), and by techniques which in effect dithers with blue noise, e.g., error diffusion. Besides descreening and construction of the dictionary, we address graceful degradation and artifact removal. (16 Refs)

Subfile: B C

Descriptors: **code** standards; decoding; **image coding** ; **image** reconstruction; ISO standards; noise; printing; telecommunication standards  
Identifiers: JBIG2; **halftone coding** ; international standard; bilevel **image** compression; bilevel documents; lossy **coding** ; **gray scale** ; **gray - scale image encoding**0 ; **halftone** pattern dictionary; **gray - scale** pixel; **halftone** pattern; reconstruction bit-map; reconstructed **image** ; periodic ordered dithering; clustered dot screening; offset printing; blue noise; error diffusion; descreening; graceful degradation; artifact removal; ISO  
Class Codes: B6135C (Image and video coding); C5260B (Computer vision and image processing techniques)  
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14/5/5 (Item 5 from file: 2)  
DIALOG(R)File 2:INSPEC  
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6404807 INSPEC Abstract Number: C1999-12-6130D-009  
**Title: Watermarking of dither halftoned images**  
Author(s): Baharav, Z.; **Shaked, D.**  
Author Affiliation: Hewlett Packard Labs. Israel, Haifa, Israel  
Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA) vol.3657 p.307-16  
Publisher: SPIE-Int. Soc. Opt. Eng,  
Publication Date: 1999 Country of Publication: USA  
CODEN: PSISDG ISSN: 0277-786X  
SICI: 0277-786X(1999)3657L:307:WDHI;1-7  
Material Identity Number: C574-1999-158  
U.S. Copyright Clearance Center Code: 0277-786X/99/\$10.00  
Conference Title: Security and Watermarking of Multimedia Contents  
Conference Sponsor: IS&T; SPIE  
Conference Date: 25-27 Jan. 1999 Conference Location: San Jose, CA, USA  
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)  
Treatment: Practical (P)  
Abstract: **Image** watermarking concerns embedding information in **images** , in a manner that does not affect the visual quality of the **image** . This paper focusses on watermarking of dither **halftone images** . The basic idea is to use a sequence of two dither matrices (instead of one) to encode the watermark information. Analyzing a specific statistical model of input **images** leads to an optimal decoding algorithm in term of the rate-distortion trade-off. Furthermore, we characterize optimal dither matrix pairs (i.e.: dither matrix pairs whose use results in the most favorable rate-distortion). Finally, the results are demonstrated in a synthetic example. The example is synthetic in the sense that it does not resort to printing and re-scanning of the **image** . (8 Refs)  
Subfile: C  
Descriptors: copy protection; document **image** processing; industrial property; security of data  
Identifiers: **image** watermarking; visual quality; dither **halftone images** ; dither matrix sequence; watermark information encoding; statistical model; optimal decoding algorithm; rate distortion trade-off; optimal dither matrix pairs  
Class Codes: C6130D (Document processing techniques); C5260B (Computer vision and image processing techniques); C0230 (Economic, social and political aspects of computing); C6130S (Data security)  
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14/5/6 (Item 6 from file: 2)  
DIALOG(R)File 2:INSPEC  
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6140133 INSPEC Abstract Number: B1999-02-6135C-114, C1999-02-5260B-255  
**Title: JPEG-compliant perceptual coding for a grayscale image printing pipeline**

Author(s): Vander Kam, R.A.; Ping Wah Wong; Gray, R.M.

Author Affiliation: Polycom Inc., San Jose, CA, USA

Journal: IEEE Transactions on Image Processing vol.8, no.1 p.1-14

Publisher: IEEE,

Publication Date: Jan. 1999 Country of Publication: USA

CODEN: IIPRE4 ISSN: 1057-7149

SICI: 1057-7149(199901)8:1L:1:JCPC;1-4

Material Identity Number: 0939-1999-001

U.S. Copyright Clearance Center Code: 1057-7149/99/\$10.00

Document Number: S1057-7149(99)00278-X

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T); Experimental (X)

**Abstract:** We describe a procedure by which Joint **Photographic** Experts Group (JPEG) compression may be customized for **gray - scale images** that are to be compressed before they are scaled, **halftoned**, and printed. Our technique maintains 100% compatibility with the JPEG standard, and is applicable with all scaling and halftoning methods. The JPEG quantization table is designed using frequency-domain characteristics of the scaling and halftoning operations, as well as the frequency sensitivity of the human visual system. In addition, the Huffman tables are optimized for low-rate **coding**. Compression artifacts are significantly reduced because they are masked by the halftoning patterns, and pushed into frequency bands where the eye is less sensitive. We describe how the frequency-domain effects of scaling and halftoning may be measured, and how to account for those effects in an iterative design procedure for the JPEG quantization table. We also present experimental results suggesting that the customized JPEG **encoder** typically maintains "near visually lossless" **image** quality at rates below 0.5 b/pixel (with reference to the number of pixels in the original **image**) when it is used with bilinear interpolation and either error diffusion or ordered dithering. Based on these results, we believe that in terms of the achieved bit rate, the performance of our **encoder** is typically at least 20% better than that of a JPEG **encoder** using the suggested baseline tables. (43 Refs)

Subfile: B C

Descriptors: data compression; frequency-domain analysis; Huffman codes; **image coding**; interpolation; printing

Identifiers: JPEG-compliant perceptual **coding**; **grayscale image** printing pipeline; **gray - scale images**; JPEG standard; JPEG quantization table; frequency-domain characteristics; halftoning; scaling; frequency sensitivity; Huffman tables; low-rate **coding**; compression artifacts; iterative design procedure; near visually lossless **image** quality; bilinear interpolation; error diffusion; ordered dithering; bit rate; performance

Class Codes: B6135C (Image and video coding); B0290F (Interpolation and function approximation (numerical analysis)); C5260B (Computer vision and image processing techniques); C1250M (Image recognition); C1260S (Signal processing theory); C4130 (Interpolation and function approximation (numerical analysis))

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14/5/7 (Item 7 from file: 2)

DIALOG(R) File 2:INSPEC

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6109785 INSPEC Abstract Number: B9901-6135C-089, C9901-5260B-405

**Title: Inverse error-diffusion using classified vector quantization**

Author(s): Lai, J.Z.C.; Yen, J.Y.

Author Affiliation: Dept. of Inf. Eng., Feng Chia Univ., Taichung, Taiwan

Journal: IEEE Transactions on Image Processing vol.7, no.12 p. 1753-8

Publisher: IEEE,

Publication Date: Dec. 1998 Country of Publication: USA

CODEN: IIPRE4 ISSN: 1057-7149

SICI: 1057-7149(199812)7:12L:1753:IEDU;1-Q

Material Identity Number: 0939-98012

U.S. Copyright Clearance Center Code: 1057-7149/98/\$10.00

Document Number: S1057-7149(98)08720-X

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T); Experimental (X)

**Abstract:** This correspondence extends and modifies classified vector quantization (CVQ) to solve the problem of inverse halftoning. The proposed process consists of two phases: the **encoding** phase and decoding phase. The **encoding** procedure needs a codebook for the **encoder** which transforms a **halftoned image** to a set of codeword-indices. The decoding process also requires a different codebook for the decoder which reconstructs a **gray - scale image** from a set of codeword-indices. Using CVQ, the reconstructed **gray - scale image** is stored in compressed form and no further compression may be required. This is different from the existing algorithms, which reconstructed a **halftoned image** in an uncompressed form. The bit rate of **encoding** a reconstructed **image** is about 0.51 b/pixel. (16 Refs)

Subfile: B C

Descriptors: decoding; **image coding** ; **image** reconstruction; inverse problems; vector quantisation

Identifiers: inverse error-diffusion; classified vector quantization; inverse halftoning; **encoding** phase; decoding phase; **halftoned image** ; codeword-indices; **gray - scale image** reconstruction

Class Codes: B6135C (Image and video coding); C5260B (Computer vision and image processing techniques)

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14/5/8 (Item 8 from file: 2)

DIALOG(R) File 2:INSPEC

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5827738 INSPEC Abstract Number: B9803-6140C-328, C9803-1250-206

**Title: An application of fractal analysis in halftoning**

Author(s): Mitsa, T.; Alford, J.R.

Author Affiliation: GE Med. Syst., Milwaukee, WI, USA

Journal: Journal of the Society for Information Display vol.5, no.3 p.217-27

Publisher: Soc. Inf. Display,

Publication Date: 1997 Country of Publication: USA

CODEN: JSIDE8 ISSN: 0734-1768

SICI: 0734-1768(1997)5:3L:217:AFAH;1-4

Material Identity Number: P997-97004

U.S. Copyright Clearance Center Code: 0734-1768/97/0503-0217\$1.00

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P); Theoretical (T); Experimental (X)



Abstract: Although the error-diffusion technique is widely accepted as providing a good balance of **gray - scale** reproduction and edge fidelity in **halftones**, a general graininess of the **image** remains. Since the visual system is more sensitive to halftoning errors in low frequencies or smooth areas, graininess is most objectionable in these regions. It is less visible in rough areas of an **image**. In order to gain insight into the error-filtering effects of various error-diffusion weights, we first investigate error-weight modifications in test **images** that contain only a few textures. Given that the fractal dimension of an **image** area can predict the area's perceived smoothness or roughness, we describe a novel error-diffusion scheme where the error weights depend on the local fractal dimension of the **gray - scale image**. The technique modifies the widely used Floyd and Steinberg four-weight mask at each pixel. Results and a comparison with other error-diffusion schemes are provided. (16 Refs)

Subfile: B C

Descriptors: computational geometry; fractals; **image coding**; **image** segmentation; **image** texture; quantisation (signal

Identifiers: fractal analysis; halftoning; error-diffusion technique; **gray - scale** reproduction; edge fidelity; **image** graininess; error-filtering effects; error-weight modifications; perceived smoothness; local fractal dimension; **gray - scale image**; **image** quality; quantization error; **image** texture; fractal brownian motion; segmentation

Class Codes: B6140C (Optical information, image and video signal processing); B6120B (Codes); C1250 (Pattern recognition); C5260B (Computer vision and image processing techniques); C6130B (Graphics techniques); C4260 (Computational geometry)

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14/5/9 (Item 9 from file: 2)

DIALOG(R)File 2:INSPEC

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5796337 INSPEC Abstract Number: A9804-0768-001

**Title: Printing halftone photographic images on diamond by focused silicon ion implantation**

Author(s): Erickson, L.E.; Champion, H.G.; Fraser, J.W.; Hussey, R.; Schmuki, P.; Porco, C.

Author Affiliation: Inst. for Microstructural Sci., Nat. Res. Council of Canada, Ottawa, Ont., Canada

Journal: Journal of Vacuum Science & Technology B (Microelectronics and Nanometer Structures) Conference Title: J. Vac. Sci. Technol. B, Microelectron. Nanometer Struct. (USA) vol.15, no.6 p.2358-61

Publisher: AIP for American Vacuum Soc,

Publication Date: Nov.-Dec. 1997 Country of Publication: USA

CODEN: JVTBD9 ISSN: 0734-211X

SICI: 0734-211X(199711/12)15:6L:2358:PHPI;1-#

Material Identity Number: C067-97011

U.S. Copyright Clearance Center Code: 0734-211X/97/15(6)/2358/4/\$10.00

Conference Title: 41st International Conference on Electron, Ion, and Photon Beams Technology and Nanofabrication

Conference Sponsor: American Vacuum Soc.; IEEE Electron Devices Soc.; Opt. Soc. America

Conference Date: 27-30 May 1997 Conference Location: Dana Point, CA, USA

Document Number: S0734-211X(97)03806-7

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Experimental (X)

Abstract: A process for creating archival records on a very long-lived

durable material is demonstrated. Optical and scanning electron microscope viewable **photographs** were printed into the surface of a chemical vapor deposition diamond wafer by silicon ion implantation. The damage caused by the implant converts the transparent diamond to visible (black) forms of carbon. The **photographs** were printed using both **halftone** and **gray - scale encoding** . The **halftone encoding** was accomplished by implanting an area proportional to the desired optical density within the 1  $\mu$  m square pixel at a fixed area dose. This **photograph** may optionally be "fixed" by annealing the sample at 1000 degrees C. This transforms the amorphous carbon to graphite. For the **gray - scale encoded image** , an 800 nm square is implanted with an ion dose proportional to the optical density of each pixel. (8 Refs)

Subfile: A

Descriptors: annealing; CVD coatings; diamond; focused ion beam technology; ion implantation; optical storage; **photographic** materials; scanning electron microscopy; silicon

Identifiers: **photographic image** printing; long-lived storage; focused silicon ion implantation; archival record; durable material; optical microscopy; scanning electron microscopy; chemical vapor deposition diamond wafer surface; **gray - scale encoding** ; **halftone encoding** ; optical density; annealing; 1000 C; C:Si

Class Codes: A0768 (Photography, photographic instruments and techniques ); A6170T (Doping and implantation of impurities); A4270G (Light-sensitive materials); A4230N (Optical storage and retrieval)

Chemical Indexing:

C:Si sur - Si sur - C sur - C:Si bin - Si bin - C bin - Si el - C el - Si dop (Elements - 1,1,2)

Numerical Indexing: temperature 1.27E+03 K

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14/5/10 (Item 10 from file: 2)

DIALOG(R)File 2:INSPEC

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5147352 INSPEC Abstract Number: B9602-6140C-142, C9602-5260B-084

**Title: Perception of binary texture and the generation of stochastic halftone screens**

Author(s): Dalton, J.

Author Affiliation: Apple. Comput. Adv. Technol. Group, Cupertino, CA, USA

Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA) vol.2411 p.207-20

Publisher: SPIE-Int. Soc. Opt. Eng,

Publication Date: 1995 Country of Publication: USA

CODEN: PSISDG ISSN: 0277-786X

SICI: 0277-786X(1995)2411L.207:PBTG;1-Y

Material Identity Number: C574-95103

U.S. Copyright Clearance Center Code: 0 8194 1758 0/95/\$6.00

Conference Title: Human Vision, Visual Processing, and Digital Display VI

Conference Sponsor: SPIE; Soc. Imaging Sci. & Technol

Conference Date: 6-8 Feb. 1995 Conference Location: San Jose, CA, USA

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Theoretical (T); Experimental (X)

Abstract: Stochastic **halftone** screens can be used in ordered dither halftoning algorithms to generate binary **image** textures that have shaped power spectra. The author examines some techniques for modeling perception of binary texture. Alternative methods for constructing **grayscale** dot

profiles are discussed, with the aim of improving the visual optimality of the entire **grayscale** dot profile. (20 Refs)

Subfile: B C

Descriptors: **image coding** ; **image** reconstruction; **image** texture; matrix printers; printing; visual perception

Identifiers: blue noise marks; texture perception; texture metamerism; stochastic **halftone** screens; ordered dither halftoning algorithms; binary **image** textures; shaped power spectra; modeling perception; **grayscale** dot profiles; visual optimality

Class Codes: B6140C (Optical information, image and video signal processing); B6120B (Codes); C5260B (Computer vision and image processing techniques); C1250 (Pattern recognition)

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14/5/11 (Item 11 from file: 2)

DIALOG(R)File 2:INSPEC

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5034012 INSPEC Abstract Number: B9510-6140C-452, C9510-5260B-246

**Title: JPEG compression for a grayscale printing pipeline**

Author(s): Vander Kam, R.A.; Wong, P.W.; Gray, R.M.

Author Affiliation: Inf. Syst. Lab., Stanford Univ., CA, USA

Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA) vol.2418 p.229-40

Publication Date: 1995 Country of Publication: USA

CODEN: PSISDG ISSN: 0277-786X

U.S. Copyright Clearance Center Code: 0 8194 1765 3/95/\$6.00

Conference Title: Still-Image Compression

Conference Sponsor: SPIE; Soc. Imaging Sci. & Technol

Conference Date: 7-8 Feb. 1995 Conference Location: San Jose, CA, USA

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: We describe a procedure by which JPEG compression may be customized for **grayscale images** that are to be compressed before they are scaled, **halftoned**, and printed. Our technique maintains 100% compatibility with the JPEG standard, and is applicable with all scaling and halftoning methods. The JPEG quantization table is designed using frequency-domain characteristics of the scaling and halftoning operations, as well as the frequency sensitivity of the human visual system. In addition, the Huffman tables are optimized for low-rate **coding**. Compression artifacts are greatly reduced because they are masked by the halftoning patterns, and pushed into frequency bands where the eye is less sensitive. We present experimental results demonstrating that the customized JPEG **encoder** typically maintains "near visually lossless" **image** quality at rates below 0.2 bits per pixel (with reference to the final, printed **image**). In terms of the achieved bit rate, this performance is typically at least 20% better than that of a JPEG **encoder** using the suggested baseline tables. (17 Refs)

Subfile: B C

Descriptors: data compression; Huffman codes; **image coding** ; interpolation; printing; quantisation (signal); visual perception

Identifiers: JPEG compression; **grayscale** printing pipeline; **image** compression; halftoning; JPEG quantization table; frequency-domain characteristics; frequency sensitivity; human visual system; Huffman tables ; low-rate **coding** ; compression artifacts; frequency bands; interpolation; customized JPEG **encoder** ; near visually lossless; hardcopy; scaling; bit rate

Class Codes: B6140C (Optical information, image and video signal processing); B6120B (Codes); C5260B (Computer vision and image processing techniques); C1250 (Pattern recognition)  
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**14/5/12 (Item 12 from file: 2)**  
DIALOG(R)File 2:INSPEC  
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4743632 INSPEC Abstract Number: B9410-6140C-102, C9410-1250-061

**Title: Perceptual coding of images for halftone display**  
Author(s): Neuhoff, D.I.; Pappas, T.N.  
Author Affiliation: Dept. of Electr. Eng. & Comput. Sci., Michigan Univ., Ann Arbor, MI, USA  
Journal: IEEE Transactions on Image Processing vol.3, no.4 p.341-54  
Publication Date: July 1994 Country of Publication: USA  
CODEN: IIPRE4 ISSN: 1057-7149  
U.S. Copyright Clearance Center Code: 1057-7149/94/\$04.00  
Language: English Document Type: Journal Paper (JP)  
Treatment: Theoretical (T); Experimental (X)  
Abstract: We present a new technique for **coding gray - scale images** for facsimile transmission and printing on a laser printer. We use a **gray - scale image encoder** so that it is only at the receiver that the **image** is converted to a binary pattern and printed. The conventional approach is to transmit the **image** in **halftoned** form, using entropy **coding** (e.g. CCITT Group 3 or JBIG). The main advantages of the new approach are that we can get higher compression rates and that the receiver can tune the halftoning process to the particular printer. We use a perceptually based subband **coding** approach. It uses a perceptual masking model that was empirically derived for printed **images** using a specific printer and halftoning technique. In particular, we used a 300 dots/inch write-black laser printer and a standard halftoning scheme ("classical") for that resolution. For nearly transparent **coding** of **gray - scale images**, the proposed technique requires lower rates than the standard facsimile techniques. (24 Refs)

Subfile: B C  
Descriptors: facsimile; **image coding**  
Identifiers: perceptual **coding**; **halftone** display; **gray - scale image coding**; facsimile transmission; printing; laser printer; **gray - scale image encoder**; receiver; binary pattern; compression rates; subband **coding**; perceptual masking model; transparent **coding**  
Class Codes: B6140C (Optical information and image processing); B6120B (Codes); C1250 (Pattern recognition)

**14/5/13 (Item 13 from file: 2)**  
DIALOG(R)File 2:INSPEC  
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4711195 INSPEC Abstract Number: B9408-6140C-264, C9408-5260B-148

**Title: Customized JPEG compression for grayscale printing**  
Author(s): Vander Kam, R.A.; Wong, P.W.  
Author Affiliation: Hewlett-Packard Co., Palo Alto, CA, USA  
p.156-65  
Editor(s): Storer, J.A.; Cohn, M.  
Publisher: IEEE Comput. Soc. Press, Los Alamitos, CA, USA  
Publication Date: 1994 Country of Publication: USA xiv+549 pp.  
ISBN: 0 8186 5637 9  
U.S. Copyright Clearance Center Code: 1068-0314/94/\$3.00

Conference Title: Proceedings of IEEE Data Compression Conference (DCC'94)

Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Comput. Commun.; NASA/CESDIS

Conference Date: 29-31 March 1994 Conference Location: Snowbird, UT, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Theoretical (T); Experimental (X)

Abstract: Describes a procedure by which JPEG compression may be customized for **grayscale images** that are to be compressed, **halftoned**, and printed. The technique maintains 100% compatibility with the JPEG standard, and is applicable with any halftoning algorithm. The JPEG quantization table is designed using frequency-domain characteristics of the halftoning patterns and the human visual system, and the Huffman tables are optimized for low-rate **coding**. The authors present experimental results demonstrating that the customized JPEG **encoder** offers a significant performance advantage over a coder that uses the default quantization and Huffman tables. The results also show that the customized **encoder** typically achieves rates in the range 0.13-0.25 bits per pixel (**image** dependent) with practically no visible compression artifacts in the printed **images**. (15 Refs)

Subfile: B C

Descriptors: data compression; **image coding**; printing

Identifiers: customized JPEG compression; **grayscale** printing; **grayscale images**; JPEG standard; halftoning algorithm; JPEG quantization table; frequency-domain characteristics; human visual system; Huffman tables; halftoning patterns; low-rate **coding**; performance; **encoder**; compression artifacts; printed **images**

Class Codes: B6140C (Optical information and image processing); B6120B (Codes); C5260B (Computer vision and picture processing); C1260 (Information theory); C1250 (Pattern recognition)

14/5/14 (Item 14 from file: 2)

DIALOG(R)File 2:INSPEC

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04337841 INSPEC Abstract Number: A9306-4230-007, B9303-6140C-146, C9303-1250-131

Title: **Evaluation of halftone techniques using psychovisual testing and quantitative quality measures**

Author(s): Mitsa, T.

Author Affiliation: Dept. of Electr. & Comput. Eng., Iowa Univ., Iowa City, IA, USA

Journal: Proceedings of the SPIE - The International Society for Optical Engineering vol.1666 p.177-87

Publication Date: 1992 Country of Publication: USA

CODEN: PSISDG ISSN: 0277-786X

U.S. Copyright Clearance Center Code: 0 8194 0820 4/92/\$4.00

Conference Title: Human Vision, Visual Processing and Digital Display III

Conference Sponsor: SPIE; Soc. Imaging Sci. Technol

Conference Date: 10-13 Feb. 1992 Conference Location: San Jose, CA, USA

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Theoretical (T); Experimental (X)

Abstract: The quality of an **image** can be evaluated by performing a psychovisual test or by using quantitative quality measured. In order to assess the performance of different **halftone** techniques, **gray scale images** are **halftoned** in various ways and then presented to human

viewers for quality evaluation. Quantitative quality criteria, such as edge correlation, mean square error and local error measures are also used for quality evaluation of the **halftone images**. Since the ultimate judges of **image** quality are human viewers, the success of these quantitative criteria as quality measures for **halftones** is assessed by comparing their results with the results of the psychovisual test. (9 Refs)

Subfile: A B C

Descriptors: edge detection; error analysis; **image coding**; optical **images**; visual perception

Identifiers: psychovisual testing; quantitative quality measures; **gray scale images**; edge correlation; mean square error; local error measures; **halftone images**; human viewers

Class Codes: A4230S (Pattern recognition); A4230V (Image processing and restoration); A8732S (Psychophysics of vision, visual perception, binocular vision); B6140C (Optical information and image processing); C1250 (Pattern recognition)

14/5/15 (Item 15 from file: 2)

DIALOG(R) File 2:INSPEC

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04337840 INSPEC Abstract Number: B9303-6140C-145, C9303-5260B-067

**Title: Least-squares model-based halftoning**

Author(s): Pappas, T.N.; Neuhoff, D.L.

Author Affiliation: Dept. of Signal Process. Res., AT&T Bell Labs., Murray Hill, NJ, USA

Journal: Proceedings of the SPIE - The International Society for Optical Engineering vol.1666 p.165-76

Publication Date: 1992 Country of Publication: USA

CODEN: PSISDG ISSN: 0277-786X

U.S. Copyright Clearance Center Code: 0 8194 0820 4/92/\$4.00

Conference Title: Human Vision, Visual Processing and Digital Display III

Conference Sponsor: SPIE; Soc. Imaging Sci. Technol

Conference Date: 10-13 Feb. 1992 Conference Location: San Jose, CA, USA

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Theoretical (T); Experimental (X)

Abstract: A least-squares model-based approach to digital halftoning is proposed. It exploits both a printer model and a model for visual perception. It attempts to produce an 'optimal' **halftoned** reproduction, by minimizing the squared error between the response of the cascade of the printer and visual models to the binary **image** and the response of the visual model to the original **gray - scale image**. It is shown that the least-squares approach eliminates the problems associated with error diffusion. Model-based halftoning can be especially useful in transmission of high quality documents using high fidelity **gray - scale image encoders**. In such cases halftoning can be performed at the receiver, just before printing. Apart from **coding** efficiency, this approach permits the **halftoner** to be tuned to the individual printer, whose characteristics may vary considerably from those of other printers, for example, write-black vs. write-white laser printers. (27 Refs)

Subfile: B C

Descriptors: **image coding**; laser printers; least squares approximations; minimisation; visual perception

Identifiers: least squares halftoning; minimisation; visual perception; digital halftoning; printer model; squared error; printer; visual models; binary **image**; least-squares; error diffusion; **gray - scale image encoders**

Class Codes: B6140C (Optical information and image processing); B6120B (Codes); B0290F (Interpolation and function approximation); C5260B (Computer vision and picture processing); C1250 (Pattern recognition); C5550 (Printers, plotters and other hard-copy output devices); C4130 (Interpolation and function approximation)

**14/5/16 (Item 16 from file: 2)**  
DIALOG(R)File 2:INSPEC  
(c) 2003 Institution of Electrical Engineers. All rts. reserv.

04247613 INSPEC Abstract Number: B9211-6210H-011

**Title: Data compression of half - tone images by periodic error diffusion method**

Author(s): Hongu, T.; Kusaka, N.; Omachi, T.; Takashima, Y.  
Journal: NEC Research and Development vol.33, no.2 p.237-45  
Publication Date: April 1992 Country of Publication: Japan  
CODEN: NECRAU ISSN: 0547-051X  
Language: English Document Type: Journal Paper (JP)  
Treatment: Theoretical (T)

**Abstract:** The recent expansion of facsimile application fields has increased the need to transmit at high speed not only black and white binary **images** for characters, but also **half - tone images** including high quality **photographic images**. The authors propose the periodic error diffusion method for realizing high quality **half - tone images** with highly efficient **coding**. This method has a high expression ability for both **gray scale** and resolution, and also moire patterns are not likely to occur for screened **photographs**. In addition, this method realizes a high **coding** efficiency, because the **half - tone** thresholded data has a periodic characteristic. They also propose the adaptive **coding** preprocessing method for thresholded mixed **images** including both characters and **half - tone images**. (3 Refs)

Subfile: B

Descriptors: data compression; **encoding**; facsimile; **picture** processing

Identifiers: **half - tone image** data compression; periodic error diffusion method; facsimile; high quality **photographic images**; efficient **coding**; **gray scale**; resolution; **half - tone** thresholded data; adaptive **coding** preprocessing method; thresholded mixed **images**; characters

Class Codes: B6210H (Facsimile transmission); B6140C (Optical information and image processing); B6120B (Codes)

**14/5/17 (Item 17 from file: 2)**  
DIALOG(R)File 2:INSPEC  
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04219119 INSPEC Abstract Number: B9210-6140C-019

**Title: A progressive scheme for digital image halftoning, coding of halftones, and reconstruction**

Author(s): Kollias, S.; Anastassiou, D.  
Author Affiliation: Dept. of Electr. Eng., Nat. Tech. Univ. of Athens, Greece  
Journal: IEEE Journal on Selected Areas in Communications vol.10, no.5 p.944-51

Publication Date: June 1992 Country of Publication: USA  
CODEN: ISACEM ISSN: 0733-8716  
U.S. Copyright Clearance Center Code: 0733-8716/92/\$03.00  
Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T); Experimental (X)

Abstract: A digital halftoning technique for the efficient transformation of **gray - scale images** into bilevel ones, based on the progressive generation of the bilevel **image** pixels in a parallel way, is presented. An **image** distortion criterion, in which the gray-tone **image** is approximated by a filtered version of the **halftoned image**, is used for this purpose. A combined scheme is also derived in which continuous-tone **images** are progressively coded and transmitted in bilevel form and can be reconstructed in **gray - scale** form. (15 Refs)

Subfile: B

Descriptors: **encoding ; picture processing**

Identifiers: **image reconstruction; image coding ; progressive method ; digital image halftoning; gray - scale images ; bilevel image pixels; image distortion; gray-tone image ; continuous-tone images**

Class Codes: B6140C (Optical information and image processing); B6120B (Codes)

14/5/18 (Item 18 from file: 2)

DIALOG(R) File 2:INSPEC

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03608778 INSPEC Abstract Number: B90030576

**Title: A unified coding method of dithered image and text data using micropatterns**

Author(s): Nakamura, Y.; Matsui, K.

Author Affiliation: Dept. of Electr. Eng., Nat. Defense Acad., Yokosuka, Japan

Journal: Electronics and Communications in Japan, Part 1 (Communications) vol.72, no.4 p.50-6

Publication Date: April 1989 Country of Publication: USA

CODEN: ECJCED ISSN: 8756-6621

U.S. Copyright Clearance Center Code: 8756-6621/89/0004-0050\$7.50/0

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T); Experimental (X)

Abstract: The authors introduce a unified **coding** algorithm for dithered **image** and text data. When a **gray scale image** is represented by binary pseudo- **half - tone**, various binary patterns representing the same **gray scale** are generated based on the degree of freedom in the dither matrix. Then one of the binary patterns is selected to represent the corresponding text data. The proposed algorithm permits approximately 70k bytes of text data to be embedded into a 256\*256-pixel **image**. It enables the transmission and handling of the mixture of **image** and text data without processing the two types of data separately. (13 Refs)

Subfile: B

Descriptors: **encoding ; facsimile; picture processing**

Identifiers: **facsimile; picture processing; micropatterns; unified coding algorithm; dithered image ; text data; gray scale image ; binary pseudo- half - tone ; dither matrix; binary patterns**

Class Codes: B6140C (Optical information processing); B6120B (Codes); B6210H (Facsimile transmission)

14/5/19 (Item 19 from file: 2)

DIALOG(R) File 2:INSPEC

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03293451 INSPEC Abstract Number: B89010889

**Title: New image processing method for halftone pictures**

Author(s): Ibaraki, H.; Kobayashi, M.; Ochi, H.



Author Affiliation: NTT Electr. Commun. Labs., Yokosuka, Japan  
Journal: Electronics and Communications in Japan, Part 1 (Communications)  
vol.71, no.7 p.87-99  
Publication Date: July 1988 Country of Publication: USA  
CODEN: ECJCED ISSN: 8756-6621  
U.S. Copyright Clearance Center Code: 8756-6621/88/0007-0087\$7.50/0  
Language: English Document Type: Journal Paper (JP)  
Treatment: Practical (P)

Abstract: With the expanding use of facsimile, there arose an increasing demand to transmit efficiently manuscripts containing **gray scale** and color **pictures** such as **photographs**. Most of the **gray scale** and color **pictures** used at present are printed materials utilizing the screen pattern, such as the **halftone pictures** in a newspaper. Problems in the facsimile transmission of the **halftone picture** are the degradation of **coding** efficiency and **picture** quality by moire in dithering. This paper describes the BSET method, which is to solve those problems, realizing a highly efficient and high-quality facsimile transmission of the **halftone pictures**. (11 Refs)

Subfile: B  
Descriptors: facsimile; **picture** processing  
Identifiers: **image** processing; **halftone pictures**; facsimile; **gray scale**; color **pictures**; **photographs**; **coding**; dithering; BSET method  
Class Codes: B6210H (Facsimile transmission); B6140C (Optical information processing)

14/5/20 (Item 20 from file: 2)

DIALOG(R)File 2:INSPEC

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02925303 INSPEC Abstract Number: B87049511, C87040988

Title: **Affordable image scanners and software simplify the design of imaging systems**

Author(s): Wright, M.

Journal: EDN vol.32, no.7 p.75, 77-8, 80-2, 84

Publication Date: 31 March 1987 Country of Publication: USA

CODEN: EDNSBH ISSN: 0012-7515

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: Now you can choose from **image** scanners in a variety of configurations and design a low-cost imaging system. More to the point, you have the opportunity to be creative: You'll be surprised at the applications that are possible. Although most low-cost systems scan relatively small (letter- and legal-size) areas, large-scale scanning is now also feasible. A complete low-cost system can consist simply of a personal computer, a scanner, and controlling software. Scanner vendors offer some software and development tools, but you may still have to write custom **code** for your application. When you consider a scanner, the following tangible specs will affect your decision: mechanical configuration, scan-area size, resolution, scan speed, **gray - scale** and **halftone** support, and hardware interfaces. Harder-to-quantify considerations, such as the amount and type of manufacturer software support, data file format, and third-party hardware/software support, will also influence your choice of system design and scanner. (10 Refs)

Subfile: B C

Descriptors: computerised **picture** processing; **image** sensors

Identifiers: software tools; third party hardware support; **image** scanners; software; design; imaging systems; large-scale scanning; personal computer; controlling software; development tools; software support; data file format; software support

Class Codes: B7230G (Image sensors); C5590 (Other peripheral equipment)

**14/5/21 (Item 21 from file: 2)**

DIALOG(R)File 2:INSPEC

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01722770 INSPEC Abstract Number: B81037575, C81025051

**Title: Digital halftones and image coding**

Author(s): Angel, E.S.

Conference Title: 1981 IEEE International Symposium on Information Theory. Abstracts of Papers p.132-3

Publisher: IEEE, New York, NY, USA

Publication Date: 1981 Country of Publication: USA 152 pp.

Conference Sponsor: IEEE; Union Radio Sci. Int

Conference Date: 9-12 Feb. 1981 Conference Location: Santa Monica, CA, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Applications (A); Theoretical (T)

Abstract: Digital **halftones** have been used for a number of years to display **gray scale** imagery on binary devices such as electrostatic printers and graphics tubes. This paper explores the use of **halftones** as **image** coders. Typical dithering algorithms produce 8:1 compression ratios. Success of the **coding** depends upon the design of the reconstruction unit other than the human visual system at the receiver end. The first type of algorithm uses statistical **image** information to derive optimal estimators based on the received **halftone**. The second type assumes, in addition, that the receiver has knowledge of the pseudorandom sequence used to generate the **halftone**. (0 Refs)

Subfile: B C

Descriptors: **encoding** ; **picture** processing

Identifiers: **image coding** ; **gray scale** imagery; electrostatic printers; graphics tubes; **halftones** as **image** coders; dithering algorithms; **picture** processing; **encoding** ; computer graphic equipment

Class Codes: B6120B (Codes); B6140 (Signal processing and detection); B6140C (Optical information processing); C1250 (Pattern recognition); C1260 (Information theory)

**14/5/22 (Item 1 from file: 65)**

DIALOG(R)File 65:Inside Conferences

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02501667 INSIDE CONFERENCE ITEM ID: CN026108075

**Ink Relocation for Color Halftones**

**Shaked, D. ; Arad, N. ; Fitzhugh, A. ; Sobel, I.**

CONFERENCE: Image processing, image quality, image capture, systems conference -51st

IS AND T ANNUAL CONFERENCE, 1998; CONF 51 P: 340-343

IS&T, 1998

ISBN: 0892082119

LANGUAGE: English DOCUMENT TYPE: Conference Papers and programme

CONFERENCE SPONSOR: Society for Imaging Science and Technology (IS&T)

CONFERENCE LOCATION: Portland, OR

CONFERENCE DATE: May 1998 (199805) (199805)

BRITISH LIBRARY ITEM LOCATION: 4582.107000

NOTE:

Described as proceedings. Also known as the first **image** processing, **image** quality, **image** capture systems conference on silver halide

**photography** , digital **photography** , and scanner technology  
DESCRIPTORS: **image** processing; PICS; IS&T; silver halide **photography** ;  
digital **photography**

**14/5/23 (Item 1 from file: 99)**  
DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs  
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1105227 H.W. WILSON RECORD NUMBER: BAST93037343  
Image **halftoning with cellular neural networks**  
Crounse, Kenneth R; Roska, Tamas; Chua, Leon O  
IEEE Transactions on Circuits and Systems. Part II, Analog and Digital  
Signal Processing v. 40 (Apr. '93) p. 267-83  
DOCUMENT TYPE: Feature Article ISSN: 1057-7130 LANGUAGE: English  
RECORD STATUS: New record

ABSTRACT: The feasibility of using cellular neural networks (CNNs) in the practical application of **image** halftoning is discussed. Halftoning is the **coding** of **gray - scale images** by a binary value at each pixel. CNN provides a natural implementation because the CNN and halftoning both have a geometrically local character. The derivation of the CNN template weights is achieved by analogy to the error diffusion algorithm for halftoning. An analysis of some limitations of the neural network approach provides an advance in designing templates over previous techniques. These limitations are particularly critical for small interconnection neighborhoods needed for efficient implementation. The **halftones** obtained are more faithful reproductions than those produced by the error diffusion algorithm. A CNN with optical outputs could be used as a high-speed scanner/ **halftoner** for applications such as the facsimile.  
DESCRIPTORS: Digital halftoning; Cellular neural networks; Facsimile transmission;

**14/5/24 (Item 1 from file: 233)**  
DIALOG(R)File 233:Internet & Personal Comp. Abs.  
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00387681 95PI06-059  
**QMS 2001 Knowledge System**  
Brown, Bruce  
PC Magazine , June 13, 1995 , v14 n11 p202, 1 Page(s)  
ISSN: 0888-8507  
Company Name: QMS  
Product Name: QMS 2001 Knowledge System  
Languages: English  
Document Type: Hardware Review  
Grade (of Product Reviewed): B  
Hardware/Software Compatibility: IBM PC Compatible; Microsoft Windows  
Geographic Location: United States  
Presents a favorable review of the QMS 2001 Knowledge System (\$1,649), a multifunction printer from QMS Inc. of Mobile, AL (800, 334). Requires an IBM PC compatibles with Windows. Includes a 16-MHz Intel RISC processor with 2MB RAM, a 600-dpi, 6-ppm laser printer; a 400-dpi scanner; and a copier. States that the QMS 2001 is a solid machine which is easy to use; and says its printer output is crisp, with text and **halftone** reproduction that is among the best among the units tested. Notes that you can copy in either line art or **gray - scale** mode, and make up to 99 copies of each of 20 originals; further, the software lets you crop, collate, scale, and add **watermarks** . However, indicates that you cannot feed **photos** to the QMS

2001's scanner; and complains that single-page copy time for a test page ranged from 1 minute 28 seconds in 400-dpi line-art mode, to 16 minutes 28 seconds in 400-dpi graph-scale mode. Includes a ratings table, an example of output, and a **photo** . (jo)

Descriptors: Laser Printer; Photocopier; Scanner; Hardware Review; Facsimile; Home Office; Graphics